

AIWA® SERVICE MANUAL

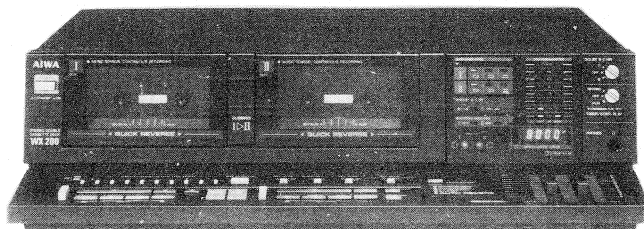
S/M Code No. 85-034

DATE OF ISSUE 7/1985

MODEL NO.

STEREO DOUBLE
CASSETTE DECK

AD-WX200 WX20



TYPE HB, CB, EB, KB, GB, ZB(AD-WX200),

SPECIFICATIONS

Type	Stereo cassette tape deck
Track format	4 tracks 2 channels
Power supply	AD-WX200E, Z AC 220 V, 50/60 Hz AD-WX200K, G AC 240 V, 50/60 Hz AD-W20U, AD-WX200C AC 120 V, 60 Hz AD-WX200H AC 120 V/220 V/240 V switchable, 50/60 Hz
Power consumption	32 W
Frequency response	METAL tape: 20-16,000 Hz CrO ₂ tape: 20-15,000 Hz NORMAL tape: 20-14,000 Hz
Signal-to-noise ratio	73 dB (METAL tape DOLBY C NR ON)
Wow and flutter	According to DIN 45 500 0.18% 0.06% (WRMS)
Tape speed	4.8 cm/sec. (1-7/8 ips), 9.5 cm/sec (Double speed)
Rewind time	90 sec. (C-60)
Fast forward time	90 sec. (C-60)
Recording system	AC bias (frequency 100 kHz)
Erase system	AC erase
Motor	DC Servomotor × 2, DC motor × 2
Heads	Playback head: SH head Record/playback head: DX head Erase head: Double-gap ferrite head

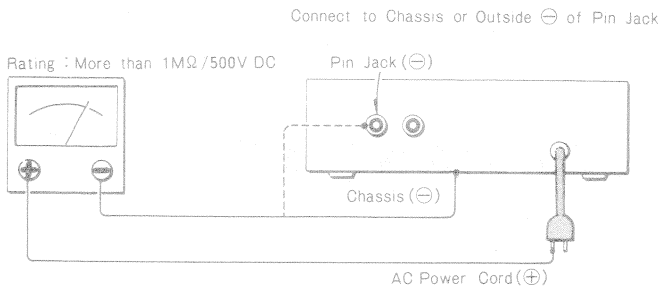
Inputs	LINE IN maximum input sensitivity: 50 mV (over 50 k Ω)
Outputs	LINE OUT standard output level: 380 mV (0 VU); suitable load impedance: over 50 k Ω; Headphones: 8 Ω
Dimensions	420(W) × 110(H) × 317(D) mm
Weight	5.6 kg
Accessories	Stereo pin cord (2)

- Design and specifications are subject to change without notice.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- Dolby and the  symbol are trademarks of Dolby Laboratories Licensing Corporation.

Follow the instructions carefully, which will allow the user to optimise the products' performance and give many years of service.

1. No scratch and melting shall be made to covered lead-wires of an a.c. primary circuit including mains leads.
2. No illegibility shall be given to the specification plate, the caution labels, the fuse labels and others.
3. When, on pattern sides of circuit boards, additional repair-parts have been made up, the parts shall be firmly glued to circuit boards or other components, unless the parts can be attached firmly.
4. The following matters shall be maintained as they are, when repairing.
 - 1) Soldering of lead-wire ends
 - * Care should be taken of the space distance in an a.c. primary circuit as well as soldering.
 - 2) Wiring and holding of lead-wires with wire-clips and binders
 - 3) Materials of lead-wires
 - * e.g.; For UL models, lead-wires to be used shall be approved or accepted by the UL.
 - 4) Location of all kinds of insulators
 - 5) Setting of voltage selector switch
 - * Set the Voltage Selector Switch to 240V, 220V, or 120V, According to your Local Voltage.
5. After repaired, the insulation resistance or leakage current shall be measured with $500 \pm 5V$ D.C and shall be not less than $1M\Omega$.

Measuring Point



• ONE-POINT ADVICE

To remove the mechanism easily, push the illustrated position by which the azimuth adjusting screw may be caught.

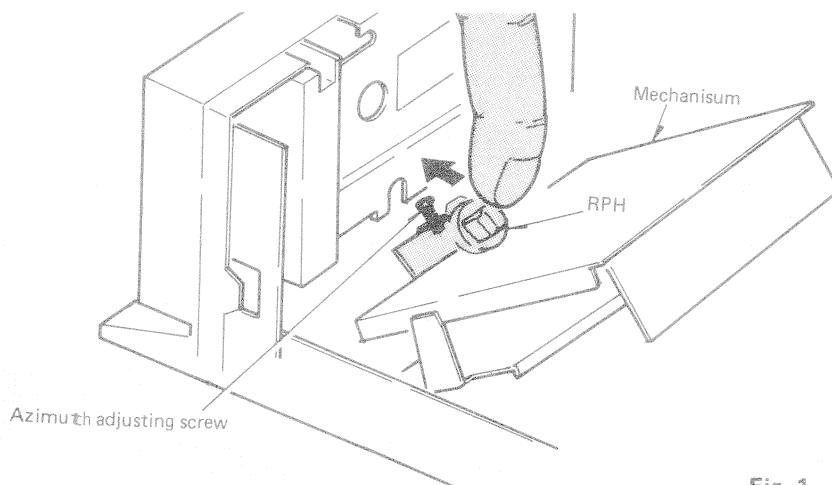


Fig. 1

ELECTRICAL MAIN PARTS LIST

- +++ mark denotes a component of assembled part which part code is represented by a previously stated component.
- * -mark means less required items and availabilities may be limited.

CAPACITORS
No mark, U, UF: μ F
P, PF : μ FCOILS
MMH: mH
UH : μ HFUSE
MMA: mA

Ref. No.	Part No.	Description	Ref.No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
=== IC ===			D2	87-020-110	DIODE 1SS177	L801	* 82-189-642	COIL,OSC LM6400	D738	87-020-110	DIODE 1SS177
④	87-020-454	IC,DM6851	D31	87-020-110	DIODE 1SS177	LED601	* 87-027-542	LED,LN217RP	LED701	* 87-020-093	LED LN222RP (REC MUTE,DECK1)
	82-104-601	IC,HD38702A37	D51	87-020-110	DIODE 1SS177	△ R405	87-029-067	RES,FUSIBLE,1/4W-4.7	LED702	* 87-020-092	LED LN422YP (PAUSE,DECK1)
	87-020-489	IC,IR2E19	D52	87-020-110	DIODE 1SS177	△ R603	87-029-366	RES,FUSIBLE 1/2W-4.7	LED703	* 87-020-091	LN322GP (REV PLAY,DECK1)
	87-020-261	IC,LA6358S									
④	82-104-602	IC,LM6402-596	D53	87-020-110	DIODE 1SS177	△ R607	87-029-083	RES,FUSIBLE,1/2W-10	LED704	* 87-020-091	LN322GP (PLAY,DECK1)
	82-104-603	IC,LM6402-597	D54	87-020-095	DIODE MC921	R813	* 87-025-085	RES,MF 68-2W	LED705	* 87-027-772	LED GL-9PR4 (HIGH)
	82-104-699	IC,LM6413E-1860	D55	87-020-110	DIODE 1SS177	R814	* 87-025-085	RES,MF 68-2W	LED706	* 87-027-772	LED GL-9PR4 (NORMAL)
	87-020-140	IC,L78M12	D101	87-020-110	DIODE 1SS177	R815	* 87-025-085	RES,MF 68-2W	LED707	* 87-020-091	LED LN322GP (REV PLAY,DECK2)
	87-020-096	IC,M4066BP	D102	87-020-110	DIODE 1SS177	R816	* 87-025-085	RES,MF 68-2W	LED708	* 87-020-091	LED LN322GP (PLAY,DECK2)
	87-020-157	IC,M5210L	D251	87-027-475	DIODE,ZENER HZ-6B1	RA801	* 82-146-611	RES,ARRAY 47KX9	LED709	* 87-020-092	LED LN422YP (PAUSE,DECK2)
	87-027-895	IC,M5218L	D301	87-027-475	DIODE,ZENER HZ-6B1	RA802	* 82-104-619	RES,ARRAY 47KX12	LED710	* 87-020-093	LED LN222RP (REC MUTE,DECK2)
	87-027-827	IC,TC4069UBP	D601	87-020-025	DIODE 2B4B41,LC-2	RA803	* 82-104-618	RES,ARRAY 47KX11	LED711	* 87-020-093	LED LN222RP (RECORD,DECK2)
	87-020-438	IC,TD62504P	D602	87-020-123	DIODE DS446	RA804	* 82-146-611	RES,ARRAY 47KX9	LED715	* 87-020-093	LED LN222RP (1)
	87-027-538	IC,UPD-4069	D603	87-020-123	DIODE DS446	RA805	* 82-146-611	RES,ARRAY 47KX9	LED716	* 87-020-093	LED LN222RP (2)
			D604	87-027-455	DIODE S2V10,F	RA806	* 82-104-617	RES,ARRAY 47KX8	LED717	* 87-020-093	LED LN222RP (3)
			D606	87-027-365	DIODE S5277B	RA807	* 82-146-613	RES,ARRAY 47KX7	LED718	* 87-020-093	LED LN222RP (4)
=== TRANSISTOR ===			D607	87-020-110	DIODE 1SS177	RY1	* 87-045-237	RELAY,GSA-237P 12VDC	LED719	* 87-020-093	LED LN222RP (5)
	89-109-521	TRANSISTOR,2SA952K	D801	87-020-110	DIODE 1SS177	RY2	* 87-045-237	RELAY,GSA-237P 12VDC	LED720	* 87-020-093	LED LN222RP (6)
	89-110-155	TRANSISTOR,2SA1015,GR	D802	87-020-123	DIODE DS446	SFR1	* 87-021-738	SFR 1K	LED721	* 87-020-093	LED LN222RP (7)
	89-113-584	TRANSISTOR,2SA1358Y	D803	87-020-123	DIODE DS446	SFR2	* 87-021-738	SFR 1K	LED722	* 87-020-093	LED LN222RP (8)
	89-206-051	TRANSISTOR,2SB605K L				SFR3	* 87-021-743	SFR 22K	LED723	* 87-020-093	LED LN222RP (9)
	89-206-415	TRANSISTOR,2SB641,S	D804	87-020-123	DIODE DS446	SFR4	* 87-021-743	SFR 22K	LED725	* 87-020-092	LED LN422YP (TAPE SIDE A)
	89-412-763	TRANSISTOR,2SC1276QP	D805	87-020-123	DIODE DS446	SFR5	* 87-021-743	SFR 22K	LED726	* 87-020-092	LED LN422YP (TAPE SIDE B)
	89-318-155	TRANSISTOR,2SC1815,GR	D806	87-020-110	DIODE 1SS177	SFR6	* 87-021-743	SFR 22K	LED727	* 87-020-091	LED,LN322GP (MS,DECK1)
	89-320-011	TRANSISTOR,2SC2001K	D807	87-020-123	DIODE DS446						
	89-405-711	TRANSISTOR,2SD571,K	D808	87-020-123	DIODE DS446	SFR411	* 87-021-746	SFR 100K	LED728	* 87-020-092	LED LN422YP (PMS,DECK1)
	89-412-753	TRANSISTOR,2SD1275	D811	87-020-110	DIODE 1SS177	SFR412	* 87-021-746	SFR 100K	S701	87-031-771	TACT SW,EVQ-QSK04M (REC MUTE,DECK1)
	89-413-023	TRANSISTOR,2SD1302S	D813	87-020-110	DIODE 1SS177	SFR451	* 87-021-746	SFR 100K	S702	87-031-771	TACT SW,EVQ-QSK04M (PAUSE,DECK1)
			D817	87-020-110	DIODE 1SS177	SFR452	* 87-021-746	SFR 100K	S703	87-031-771	TACT SW,EVQ-QSK04M (STOP,DECK1)
=== MAIN CIRCUIT BOARD SECTION ===			D818	87-020-110	DIODE 1SS177	=== KEY SWITCH CIRCUIT BOARD SECTION ===			S704	87-031-771	TACT SW,EVQ-QSK04M (MS,DECK2)
PCB-A	*	MAIN CIRCUIT BOARD	D819	87-020-110	DIODE 1SS177	PCB-B	*	KEY SWITCH CIRCUIT BOARD	S705	87-031-771	TACT SW,EVQ-QSK04M (MS,DECK2)
C3	* 87-018-036	CAP,CERA-SOL S 220P	D820	87-020-110	DIODE 1SS177	D701	87-020-110	DIODE 1SS177	S706	87-031-771	TACT SW,EVQ-QSK04M (STOP,DECK2)
C4	* 87-018-036	CAP,CERA-SOL S 220P	D821	87-020-110	DIODE 1SS177	D702	87-020-110	DIODE 1SS177	S707	87-031-771	TACT SW,EVQ-QSK04M (REV PLAY,DECK2)
C5	* 87-018-032	CAP,CERA-SOL S 100P				D703	87-020-110	DIODE 1SS177			
C6	* 87-018-032	CAP,CERA-SOL S 100P	D823	87-020-110	DIODE 1SS177	D704	87-020-110	DIODE 1SS177	S708	87-031-771	TACT SW,EVQ-QSK04M (PLAY,DECK2)
C7	* 87-015-954	CAP,ELECT LL 10-16V	D826	87-020-110	DIODE 1SS177	D705	87-020-110	DIODE 1SS177	S709	87-031-771	TACT SW,EVQ-QSK04M (PAUSE,DECK2)
C8	* 87-015-954	CAP,ELECT LL 10-16V	D827	87-020-110	DIODE 1SS177	D706	87-020-110	DIODE 1SS177	S710	87-031-771	TACT SW,EVQ-QSK04M (REC MUTE,DECK2)
C19	* 87-018-047	CAP,CERA-SOL S 0.01Y/16	D829	87-020-110	DIODE 1SS177	D707	87-020-110	DIODE 1SS177	S711	87-031-771	TACT SW,EVQ-QSK04M (RECORD,DECK2)
C20	* 87-018-047	CAP,CERA-SOL S 0.01Y/16	D830	87-020-110	DIODE 1SS177	D708	87-020-110	DIODE 1SS177	S715	87-031-771	TACT SW,EVQ-QSK04M (1)
C21	* 87-015-698	CAP,ELECT 4.7-50	D832	87-020-110	DIODE 1SS177	D709	87-020-110	DIODE 1SS177	S716	87-031-771	TACT SW,EVQ-QSK04M (2)
C22	* 87-015-698	CAP,ELECT 4.7-50	D841	87-020-110	DIODE 1SS177	D710	87-020-110	DIODE 1SS177	S717	87-031-771	TACT SW,EVQ-QSK04M (3)
C31	* 87-018-047	CAP,CERA-SOL S 0.01Y/16	D842	87-020-110	DIODE 1SS177	D711	87-020-110	DIODE 1SS177	S718	87-031-771	TACT SW,EVQ-QSK04M (4)
C34	* 87-018-044	CAP,CERA-SOL S 1000P	D843	87-020-110	DIODE 1SS177	D712	87-020-110	DIODE 1SS177	S719	87-031-771	TACT SW,EVQ-QSK04M (5)
C36	* 87-018-047	CAP,CERA-SOL S 0.01Y/16	D844	87-020-110	DIODE 1SS177	D713	87-020-110	DIODE 1SS177	S720	87-031-771	TACT SW,EVQ-QSK04M (6)
C51	* 87-018-047	CAP,CERA-SOL S 0.01Y/16	D845	87-020-110	DIODE 1SS177	D714	87-020-110	DIODE 1SS177	S721	87-031-771	TACT SW,EVQ-QSK04M (7)
C65	* 87-015-954	CAP,ELECT LL 10-16V	D846	87-020-110	DIODE 1SS177	D715	87-020-110	DIODE 1SS177	S722	87-031-771	TACT SW,EVQ-QSK04M (8)
C66	* 87-015-954	CAP,ELECT LL 10-16V	D847	87-020-110	DIODE 1SS177	D716	87-020-110	DIODE 1SS177	S723	87-031-771	TACT SW,EVQ-QSK04M (9)
C403	* 87-014-115	CAP,PP 0.0056G	D848	87-020-110	DIODE 1SS177	D717	87-020-110	DIODE 1SS177	S725	87-031-771	TACT SW,EVQ-QSK04M (TAPE SIDE)
C411	* 87-010-060	CAP,ELECT,100-16	D851	87-020-110	DIODE 1SS177	D721	87-020-110	DIODE 1SS177	S726	87-109-614	PUSH SW (MS SELECTOR)
C414	* 87-014-061	CAP,PP 1500PF	J1	87-049-301	JACK PLATE ASSY (LINE IN/REC,LEFT)	D722	87-020-110	DIODE 1SS177	S727	87-031-771	TACT SW,EVQ-QSK04M (BACK SKIP)
C454	* 87-014-061	CAP,PP 1500PF	J2	+++	JACK PLATE ASSY (LINE IN/REC,RIGHT)	D723	87-020-110	DIODE 1SS177	S728	87-031-771	TACT SW,EVQ-QSK04M (REV PLAY,DECK1)
C601	* 87-018-047	CAP,CERA-SOL S 0.01Y/16	J3	+++	JACK PLATE ASSY (LINE OUT/PLAY,LEFT)	D724	87-020-110	DIODE 1SS177	S729	87-031-771	TACT SW,EVQ-QSK04M (PLAY,DECK1)
C602	* 87-018-047	CAP,CERA-SOL S 0.01Y/16	J4	+++	JACK PLATE ASSY (LINE OUT/PLAY,RIGHT)	D725	87-020-110	DIODE 1SS177	S730	87-031-771	TACT SW,EVQ-QSK04M (FWD SKIP)
C603	* 87-010-411	CAP,ELECT 1000-50V	L1	* 82-196-603	COIL,TRAP,100KHZ	D726	87-020-110	DIODE 1SS177	S731	87-031-802	SLIDE SW 2-2-3 SSS (REVERSE MODE 1)
C605	* 87-010-437	CAP,ELECT 1000-50V (U,C,E,K,G,Z MODELS)	L2	* 82-196-603	COIL,TRAP,100KHZ	D727	87-020-110	DIODE 1SS177	S732	87-031-802	SLIDE SW 2-2-3 SSS (REVERSE MODE 2)
C611	* 87-018-047	CAP,CERA-SOL S 0.01Y/16	L201	82-198-715	MPX FILTER	D728	87-020-110	DIODE 1SS177	S733	87-031-873	SLIDE SW-SSS-322 (BLANK SKIP)
C804	* 87-010-237	CAP,ELECT 1000-16(SR)	L202	82-198-715	MPX FILTER	D729	87-020-110	DIODE 1SS177	S734	87-031-802	SLIDE SW 2-2-3 SSS (REC MODE)
C805	* 87-010-237	CAP,ELECT 1000-16(SR)	L251	* 82-196-603	COIL,TRAP,100K	D730	87-020-110	DIODE 1SS177	S735	87-031-771	TACT SW,EVQ-QSK04M (COUNTER RESET)
C806	* 87-010-237	CAP,ELECT 1000-16(SR)	L301	* 82-196-603	COIL,TRAP,100K	D731	87-020-110	DIODE 1SS177	S741	87-031-771	TACT SW,EVQ-QSK04M (SYNC DUBB H)
C807	* 87-010-237	CAP,ELECT 1000-16(SR)	L302	* 82-196-603	COIL,TRAP,100K	D732	87-020-110	DIODE 1SS177	S742	87-031-771	TACT SW,EVQ-QSK04M (SYNC DUBB N)
C816	* 87-018-044	CAP,CERA-SOL S 1000P	L401	* 82-104-642	COIL,OSC,1	D733	87-020-110	DIODE 1SS177	=== REC. AMP. CIRCUIT BOARD SECTION ===		
D1	87-020-110	DIODE 1SS177	L411	* 82-104-643	COIL,OSC,2	D734	87-020-110	DIODE 1SS177	PCB-C	*	REC. AMP. CIRCUIT BOARD
			L412	* 87-003-051	CHOKE COIL 470 UH	D735	87-020-110	DIODE 1SS177	D401	87-020-110	DIODE 1SS177
			L451	* 82-104-643	COIL,OSC,2	D736	87-020-110	DIODE 1SS177	D402	87-020-110	DIODE 1SS177
			L452	* 87-003-051	CHOKE COIL 470 UH	D737	87-020-110	DIODE 1SS177	L253	* 87-005-242	MICRO INDUCTOR 5.6MMH

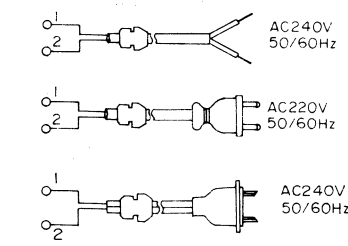
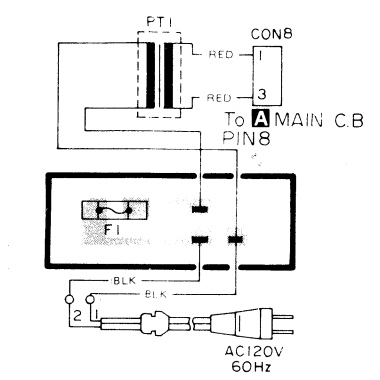
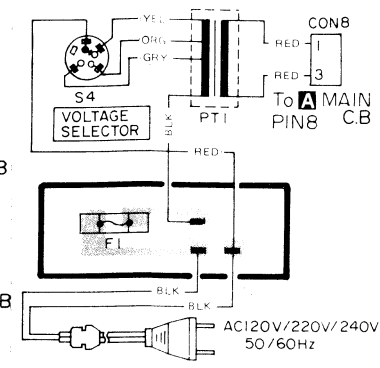
 **Safety component symbol**

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

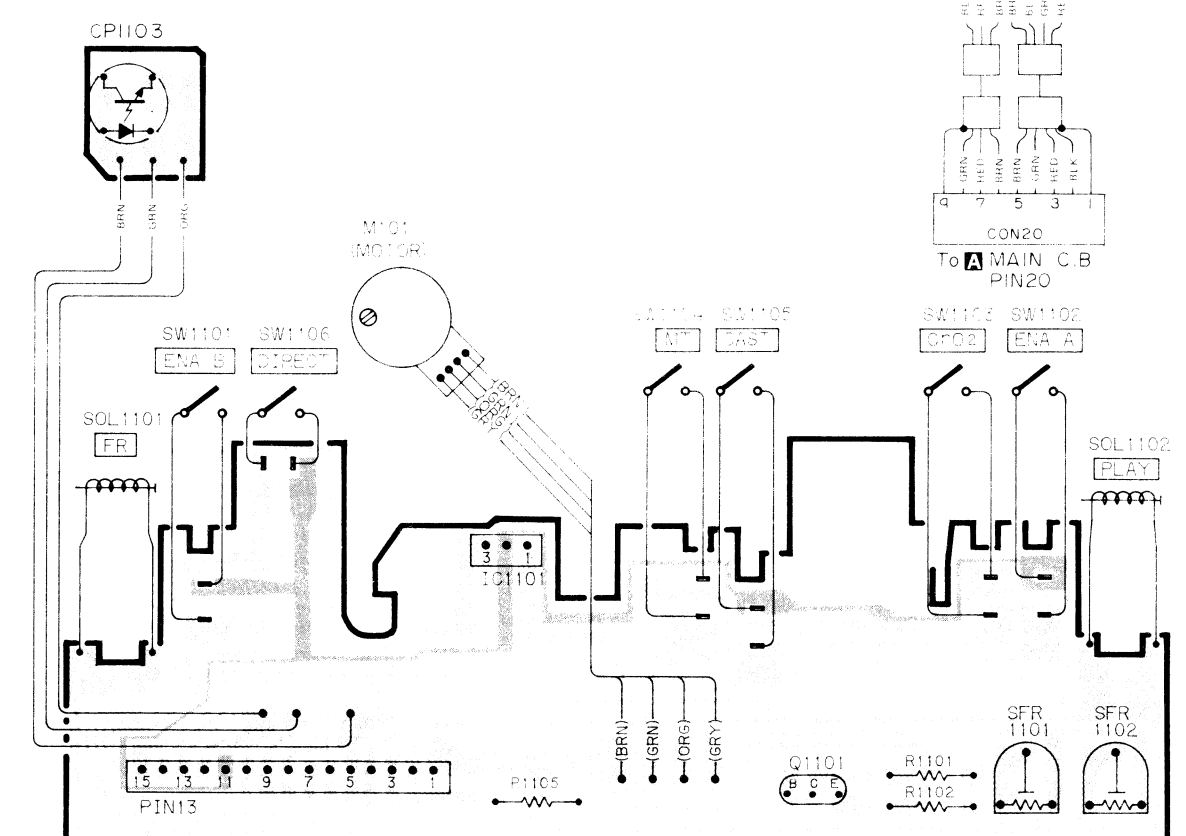
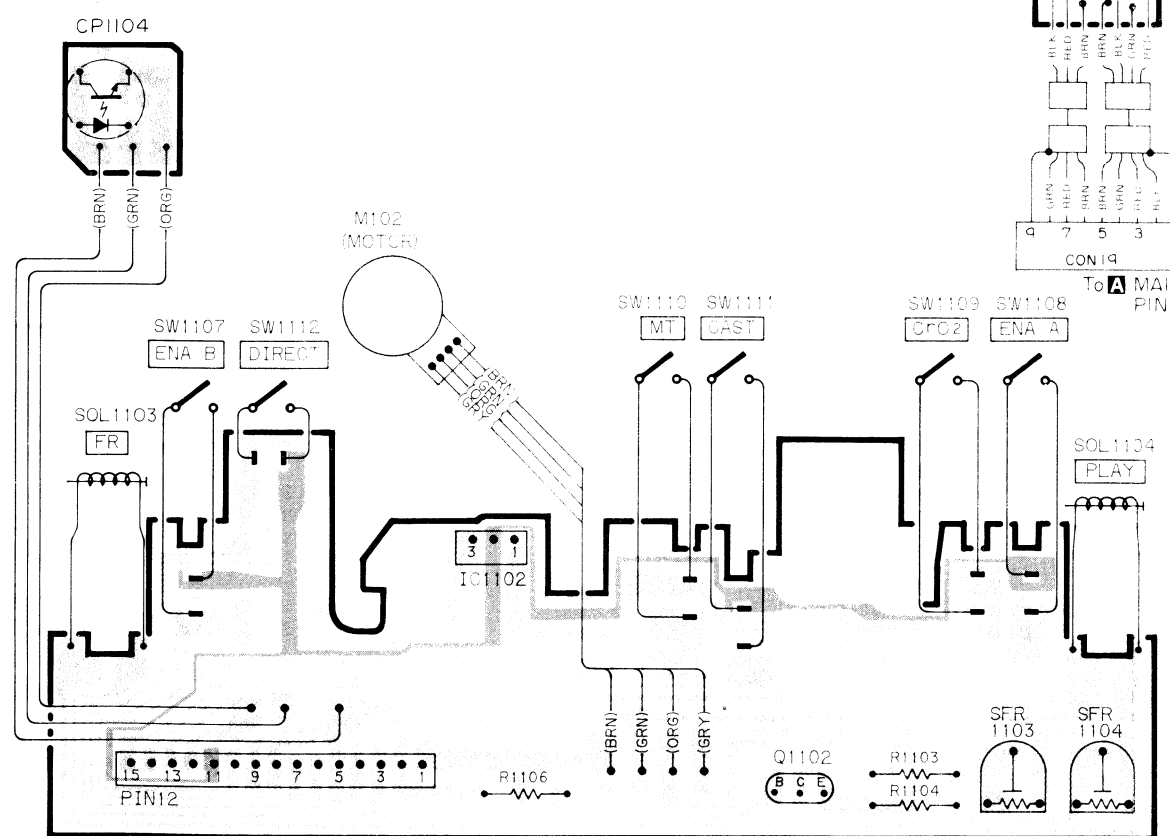
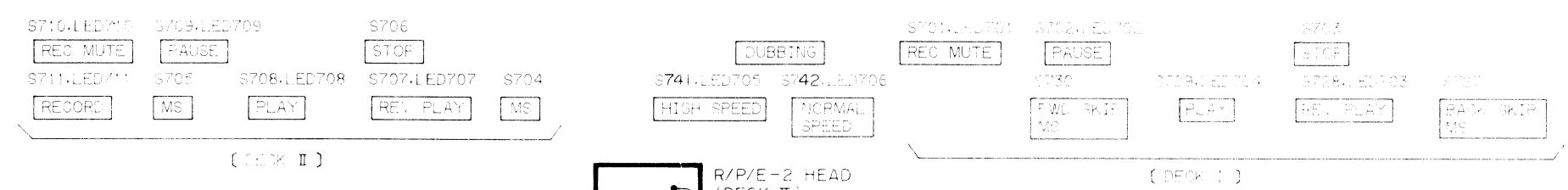
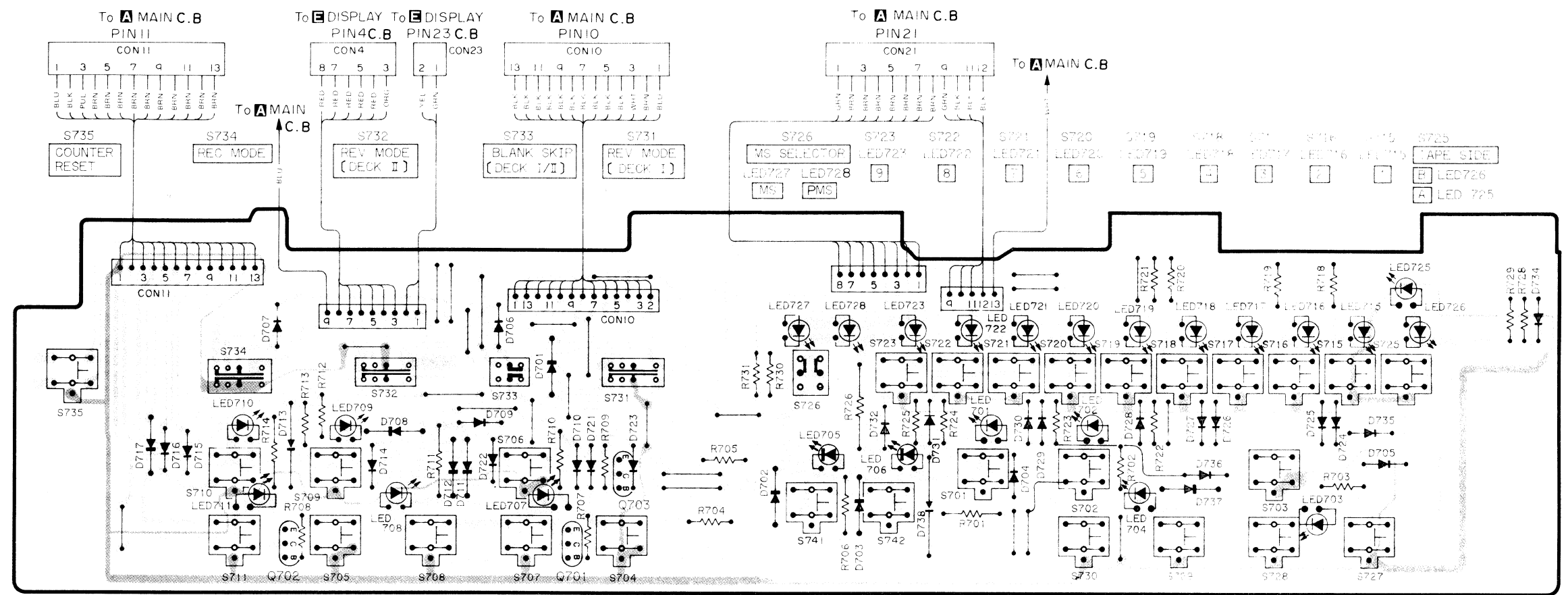


- 8

-I C.B



C.B



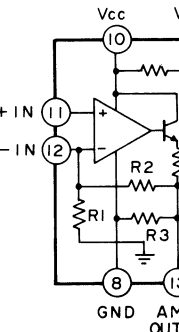
ELECTRICAL MAIN PARTS LIST

• +++ mark denotes a component of assembled part which part code is represented by a previously stated component.
• * -mark means less required items and availabilities may be limited.

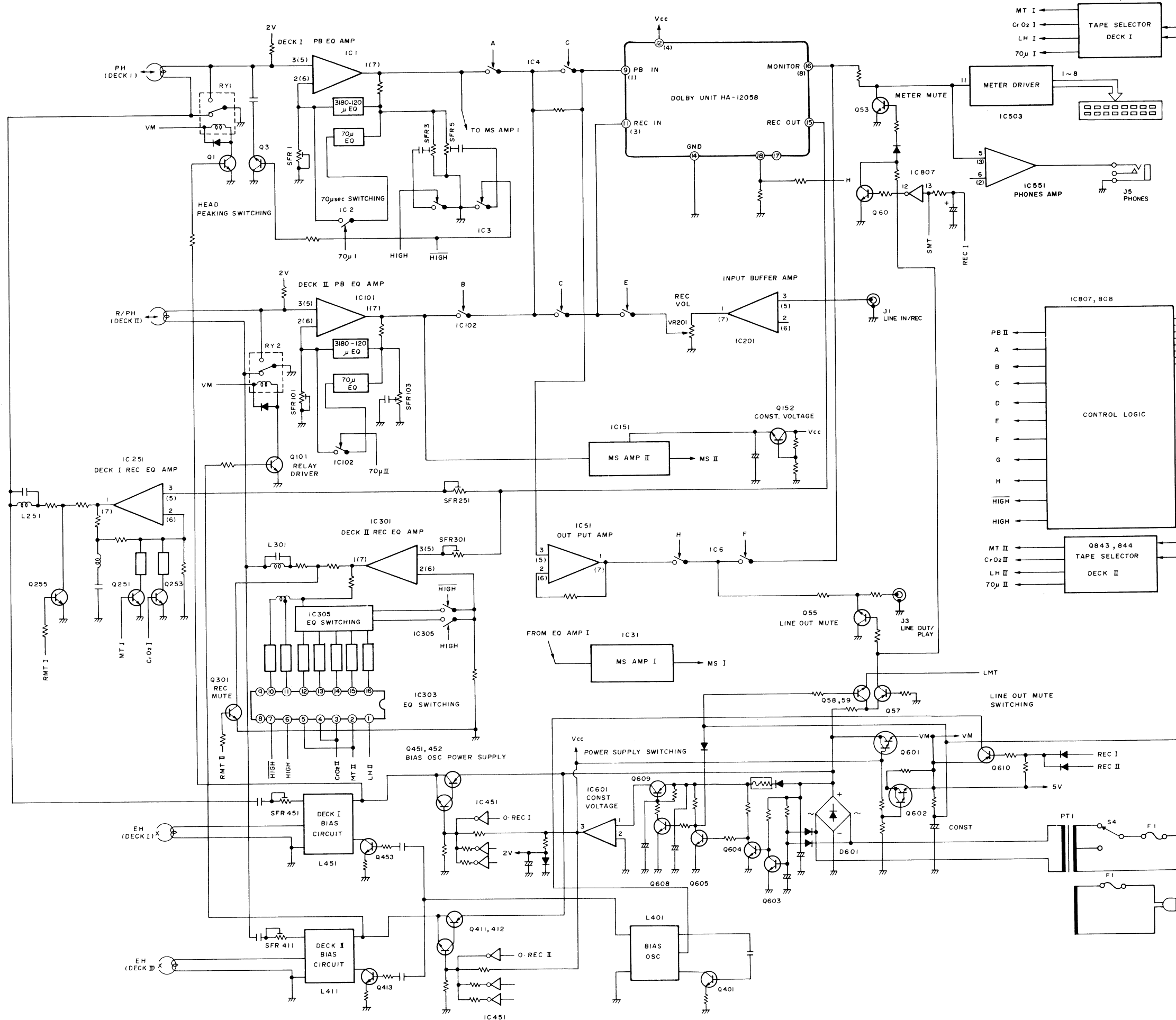
CAPACITORS
No mark, U, UF: μ F
P, PF : pF
COILS
MMH: mH
UH : μ H
FUSE
MMA: mA

Ref. No.	Part No.	Description	Ref.No.	Part No.	Descripton	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
=== IC ===			D2	87-020-110	DIODE 1SS177	L801	* 82-189-642	COIL,OSC LM6400	D738	87-020-110	DIODE 1SS177	L2					
④	87-020-454	IC,DM6851	D31	87-020-110	DIODE 1SS177	LED601	* 87-027-542	LED,LN217RP	LED701	* 87-020-093	LED LN222RP (REC MUTE,DECK1)	L3					
	82-104-601	IC,HD38702A37	D51	87-020-110	DIODE 1SS177	R405	, 87-029-067	RES,FUSIBLE,1/4W-4.7	LED702	* 87-020-092	LED LN422YP (PAUSE,DECK1)	L3					
	87-020-489	IC,IR2E19	D52	87-020-110	DIODE 1SS177	R603	, 87-029-366	RES,FUSIBLE 1/2W-4.7	LED703	* 87-020-091	LN322GP (REV PLAY,DECK1)	SR					
	87-020-261	IC,LA6358S	D53	87-020-110	DIODE 1SS177	R607	, 87-029-083	RES,FUSIBLE,1/2W-10	LED704	* 87-020-091	LN322GP (PLAY,DECK1)	SR					
④	82-104-602	IC,LM6402-596	D54	87-020-095	DIODE MC921	R813	* 87-025-085	RES,MF 68-2W	LED705	* 87-027-772	LED GL-9PR4 (HIGH)	SR					
	82-104-603	IC,LM6402-597	D55	87-020-110	DIODE 1SS177	R814	* 87-025-085	RES,MF 68-2W	LED706	* 87-027-772	LED GL-9PR4 (NORMAL)	SR					
	82-104-699	IC,LM6413E-1860	D101	87-020-110	DIODE 1SS177	R815	* 87-025-085	RES,MF 68-2W	LED707	* 87-020-091	LED LN322GP (REV PLAY,DECK2)						
	87-020-140	IC,L78M12	D102	87-020-110	DIODE 1SS177	R816	* 87-025-085	RES,MF 68-2W	LED708	* 87-020-091	LED LN322GP (PLAY,DECK2)						
④	87-020-096	IC,M4066BP	D251	87-027-475	DIODE,ZENER HZ-6B1	RA801	* 82-146-611	RES,ARRAY 47KX9	LED709	* 87-020-092	LED LN422YP (PAUSE,DECK2)						
	87-020-157	IC,M5210L	D301	87-027-475	DIODE,ZENER HZ-6B1	RA802	* 82-104-619	RES,ARRAY 47KX12	LED710	* 87-020-093	LED LN222RP (REC MUTE,DECK2)						
	87-027-895	IC,M5218L	D601	87-020-025	DIODE 2B4B41,LC-2	RA803	* 82-104-618	RES,ARRAY 47KX11	LED711	* 87-020-093	LED LN222RP (RECORD,DECK2)						
	87-027-827	IC,TC4069UBP	D602	87-020-123	DIODE DS446	RA804	* 82-146-611	RES,ARRAY 47KX9	LED715	* 87-020-093	LED LN222RP (1)						
④	87-020-438	IC,TD62504P	D603	87-020-123	DIODE DS446	RA805	* 82-146-611	RES,ARRAY 47KX9	LED716	* 87-020-093	LED LN222RP (2)						
	87-027-538	IC,UPD-4069	D604	87-027-455	DIODE S2V10,F	RA806	* 82-104-617	RES,ARRAY 47KX8	LED717	* 87-020-093	LED LN222RP (3)						
			D606	87-027-365	DIODE S5277B	RA807	* 82-146-613	RES,ARRAY 47KX7	LED718	* 87-020-093	LED LN222RP (4)						
			D607	87-020-110	DIODE 1SS177	RY1	* 87-045-237	RELAY,GSA-237P 12VDC	LED719	* 87-020-093	LED LN222RP (5)						
=== TRANSISTOR ===			D801	87-020-110	DIODE 1SS177	RY2	* 87-045-237	RELAY,GSA-237P 12VDC	LED720	* 87-020-093	LED LN222RP (6)						
④	89-109-521	TRANSISTOR,2SA952K	D802	87-020-123	DIODE DS446	SFR1	* 87-021-738	SFR 1K	LED721	* 87-020-093	LED LN222RP (7)						
	89-110-155	TRANSISTOR,2SA1015,GR	D803	87-020-123	DIODE DS446	SFR2	* 87-021-738	SFR 1K	LED722	* 87-020-093	LED LN222RP (8)						
	89-113-584	TRANSISTOR,2SA1358Y	D804	87-020-123	DIODE DS446	SFR3	* 87-021-743	SFR 22K	LED723	* 87-020-093	LED LN222RP (9)						
	89-206-051	TRANSISTOR,2SB605K L	D805	87-020-123	DIODE DS446	SFR4	* 87-021-743	SFR 22K	LED725	* 87-020-092	LED LN422YP (TAPE SIDE A)						
④	89-206-415	TRANSISTOR,2SB641,S	D806	87-020-110	DIODE 1SS177	SFR5	* 87-021-743	SFR 22K	LED726	* 87-020-092	LED LN422YP (TAPE SIDE B)						
	89-412-763	TRANSISTOR,2SC1276QP	D807	87-020-123	DIODE DS446	SFR6	* 87-021-743	SFR 22K	LED727	* 87-020-091	LED,LN322GP (MS,DECK1)						
	89-318-155	TRANSISTOR,2SC1815,GR	D808	87-020-123	DIODE DS446	SFR411	* 87-021-746	SFR 100K	LED728	* 87-020-092	LED LN422YP (PMS,DECK1)						
	89-320-011	TRANSISTOR,2SC2001K	D811	87-020-110	DIODE 1SS177	SFR412	* 87-021-746	SFR 100K	S701	87-031-771	TACT SW,EVQ-QSK04M (REC MUTE,DECK1)						
④	89-405-711	TRANSISTOR,2SD571,K	D813	87-020-110	DIODE 1SS177	SFR451	* 87-021-746	SFR 100K	S702	87-031-771	TACT SW,EVQ-QSK04M (PAUSE,DECK1)						
	89-412-753	TRANSISTOR,2SD1275	D817	87-020-110	DIODE 1SS177	SFR452	* 87-021-746	SFR 100K	S703	87-031-771	TACT SW,EVQ-QSK04M (STOP,DECK1)						
	89-413-023	TRANSISTOR,2SD1302S	D818	87-020-110	DIODE 1SS177	=== KEY SWITCH CIRCUIT BOARD SECTION ===					S704	87-031-771	TACT SW,EVQ-QSK04M (MS,DECK2)				
			D819	87-020-110	DIODE 1SS177	PCB-B	*	KEY SWITCH CIRCUIT BOARD	S705	87-031-771	TACT SW,EVQ-QSK04M (MS,DECK2)						
=== MAIN CIRCUIT BOARD SECTION ===			D820	87-020-110	DIODE 1SS177	D701	87-020-110	DIODE 1SS177	S706	87-031-771	TACT SW,EVQ-QSK04M (STOP,DECK2)						
④	PCB-A	* MAIN CIRCUIT BOARD	D821	87-020-110	DIODE 1SS177	D702	87-020-110	DIODE 1SS177	S707	87-031-771	TACT SW,EVQ-QSK04M (REV PLAY,DECK2)						
	C3	* 87-018-036 CAP,CERA-SOL S 220P	D823	87-020-110	DIODE 1SS177	D703	87-020-110	DIODE 1SS177	S708	87-031-771	TACT SW,EVQ-QSK04M (PLAY,DECK2)						
	C4	* 87-018-036 CAP,CERA-SOL S 220P	D826	87-020-110	DIODE 1SS177	D704	87-020-110	DIODE 1SS177	S709	87-031-771	TACT SW,EVQ-QSK04M (PAUSE,DECK2)						
	C5	* 87-018-032 CAP,CERA-SOL S 100P	D827	87-020-110	DIODE 1SS177	D705	87-020-110	DIODE 1SS177	S710	87-031-771	TACT SW,EVQ-QSK04M (REC MUTE,DECK2)						
④	C6	* 87-018-032 CAP,CERA-SOL S 100P	D829	87-020-110	DIODE 1SS177	D706	87-020-110	DIODE 1SS177	S711	87-031-771	TACT SW,EVQ-QSK04M (RECORD,DECK2)						
	C7	* 87-015-954 CAP,ELECT LL 10-16V	D830	87-020-110	DIODE 1SS177	D707	87-020-110	DIODE 1SS177	S715	87-031-771	TACT SW,EVQ-QSK04M (1)						
	C8	* 87-015-954 CAP,ELECT LL 10-16V	D832	87-020-110	DIODE 1SS177	D708	87-020-110	DIODE 1SS177	S716	87-031-771	TACT SW,EVQ-QSK04M (2)						
	C19	* 87-018-047 CAP,CERA-SOL S 0.01Y/16	D841	87-020-110	DIODE 1SS177	D709	87-020-110	DIODE 1SS177	S717	87-031-771	TACT SW,EVQ-QSK04M (3)						
④	C20	* 87-018-047 CAP,CERA-SOL S 0.01Y/16	D842	87-020-110	DIODE 1SS177	D710	87-020-110	DIODE 1SS177	S718	87-031-771	TACT SW,EVQ-QSK04M (4)						
	C21	* 87-015-698 CAP,ELECT 4.7-50	D843	87-020-110	DIODE 1SS177	D711	87-020-110	DIODE 1SS177	S719	87-031-771	TACT SW,EVQ-QSK04M (5)						
	C22	* 87-015-698 CAP,ELECT 4.7-50	D844	87-020-110	DIODE 1SS177	D712	87-020-110	DIODE 1SS177	S720	87-031-771	TACT SW EVQ-QSK04M (6)						
	C31	* 87-018-047 CAP,CERA-SOL S 0.01Y/16	D845	87-020-110	DIODE 1SS177	D713	87-020-110	DIODE 1SS177	S721	87-031-771	TACT SW EVQ-QSK04M (7)						
④	C34	* 87-018-044 CAP,CERA-SOL S 1000P	D846	87-020-110	DIODE 1SS177	D714	87-020-110	DIODE 1SS177	S722	87-031-771	TACT SW EVQ-QSK04M (8)						
	C36	* 87-018-047 CAP,CERA-SOL S 0.01Y/16	D847	87-020-110	DIODE 1SS177	D715	87-020-110	DIODE 1SS177	S723	87-031-771	TACT SW EVQ-QSK04M (9)						
	C51	* 87-018-047 CAP,CERA-SOL S 0.01Y/16	D848	87-020-110	DIODE 1SS177	D716	87-020-110	DIODE 1SS177	S725	87-031-771	TACT SW EVQ-QSK04M (TAPE SIDE)						
	C65	* 87-015-954 CAP,ELECT LL 10-16V	D851	87-020-110	DIODE 1SS177	D717	87-020-110	DIODE 1SS177	S726	87-109-614	PUSH SW (MS SELECTOR)						
④	C66	* 87-015-954 CAP,ELECT LL 10-16V	J1	87-049-301	JACK PLATE ASSY (LINE IN/REC,LEFT)	D721	87-020-110	DIODE 1SS177	S727	87-031-771	TACT SW EVQ-QSK04M (BACK SKIP)						
	C403	* 87-014-115 CAP,PP 0.0056G	J2	+++	JACK PLATE ASSY (LINE IN/REC,RIGHT)	D722	87-020-110	DIODE 1SS177	S728	87-031-771	TACT SW EVQ-QSK04M (REV PLAY,DECK1)						
	C411	* 87-010-060 CAP,ELECT,100-16	J3	+++	JACK PLATE ASSY (LINE OUT/PLAY,LEFT)	D723	87-020-110	DIODE 1SS177	S729	87-031-771	TACT SW EVQ-QSK04M (PLAY,DECK1)						
	C414	* 87-014-061 CAP,PP 1500PF	J4	+++	JACK PLATE ASSY (LINE OUT/PLAY,RIGHT)	D724	87-020-110	DIODE 1SS177	S730	87-031-771	TACT SW EVQ-QSK04M (FWD SKIP)						
④	C454	* 87-014-061 CAP,PP 1500PF	L1	* 82-196-603	COIL,TRAP,100KHZ	D725	87-020-110	DIODE 1SS177	S731	87-031-802	SLIDE SW 2-2-3 SSS (REVERSE MODE 1)						
	C601	* 87-018-047 CAP,CERA-SOL S 0.01Y/16	L2	* 82-196-603	COIL,TRAP,100KHZ	D726	87-020-110	DIODE 1SS177	S732	87-031-802	SLIDE SW 2-2-3 SSS (REVERSE MODE 2)						
	C602	* 87-018-047 CAP,CERA-SOL S 0.01Y/16	L201	82-198-715	MPX FILTER	D727	87-020-110	DIODE 1SS177	S733	87-031-873	SLIDE SW-SSS-322 (BLANK SKIP)						
	C603	* 87-010-411 CAP,ELECT 1000-50V	L202	82-198-715	MPX FILTER	D728	87-020-110	DIODE 1SS177	S734	87-031-802	SLIDE SW 2-2-3 SSS (REC MODE)						
④	C605	* 87-010-437 CAP,ELECT 1000-50V (U,C,E,K,G,Z MODELS)	L251	* 82-196-603	COIL,TRAP,100K	D729	87-020-110	DIODE 1SS177	S735	87-031-771	TACT SW EVQ-QSK04M (COUNTER RESET)						
	C611	* 87-018-047 CAP,CERA-SOL S 0.01Y/16	L301	* 82-196-603	COIL,TRAP,100K	D730	87-020-110	DIODE 1SS177	S741	87-031-771	TACT SW EVQ-QSK04M (SYNC DUBB H)						
	C804	* 87-010-237 CAP,ELECT 1000-16(SR)	L302	* 82-196-603	COIL,TRAP,100K	D731	87-020-110	DIODE 1SS177	S742	87-031-771	TACT SW EVQ-QSK04M (SYNC DUBB N)						
	C805	* 87-010-237 CAP,ELECT 1000-16(SR)	L401	* 82-104-642	COIL OSC,1	D732	87-020-110	DIODE 1SS177	=== REC. AMP. CIRCUIT BOARD SECTION ===								
④	C806	* 87-010-237 CAP,ELECT 1000-16(SR)	L411	* 82-104-643	COIL OSC,2	D733	87-020-110	DIODE 1SS177	PCB-C	*	REC. AMP. CIRCUIT BOARD						
	C807	* 87-010-237 CAP,ELECT 1000-16(SR)	L412	* 87-003-051	CHOKE COIL 470 UH	D734	87-020-110	DIODE 1SS177	D401	87-020-110	DIODE 1SS177						
	C816	* 87-018-044 CAP,CERA-SOL S 1000P	L451	* 82-104-643	COIL OSC,2	D735	87-020-110	DIODE 1SS177	D402	87-020-110	DIODE 1SS177						
	D1	87-020-110 DIODE 1SS177	L452	* 87-003-051	CHOKE COIL 470 UH	D736	87-020-110	DIODE 1SS177	L253	* 87-005-242	MICRO INDUCTOR 5.6MMH						

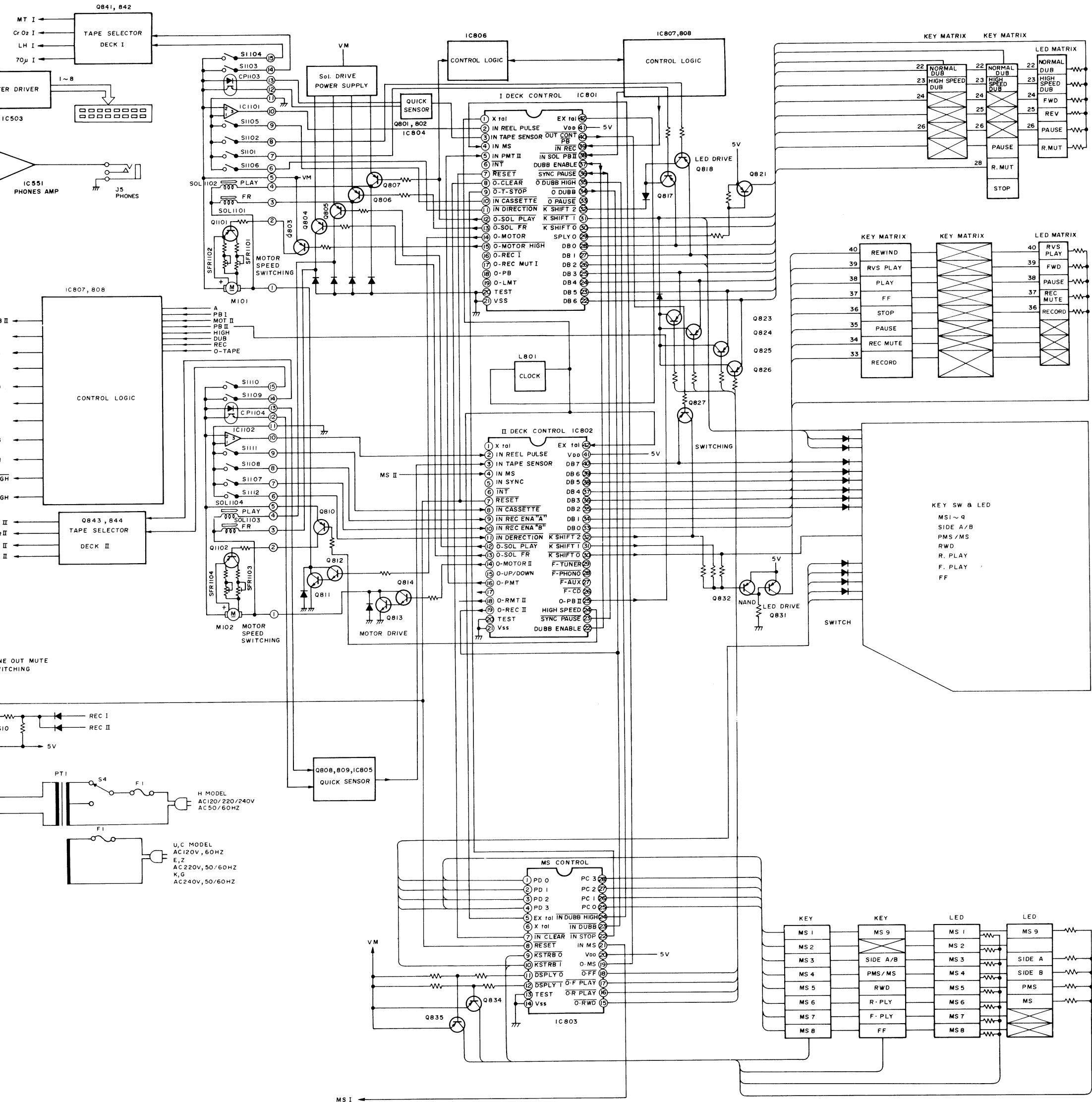
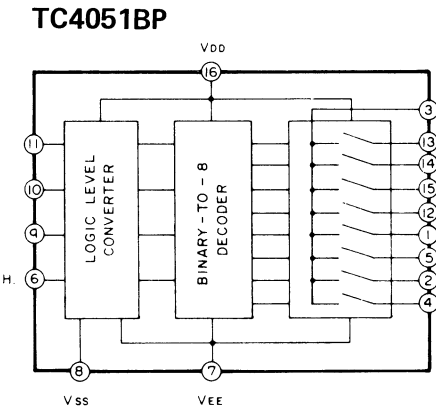
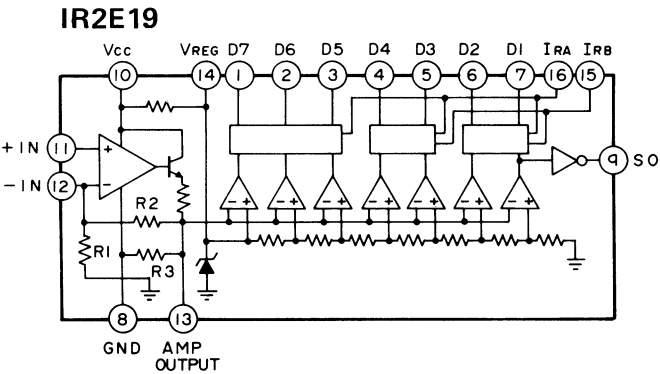
Description	Ref.No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description									
SS177	L254	* 87-005-242	MICRO INDUCTOR 5.6MMH	LED527	87-027-542	LED LN217RP (8P PEAK PROG METER)	=== SENSOR-2 CIRCUIT BOARD SECTION ===											
22RP (REC MUTE,DECK1)	L303	* 82-196-604	COIL 2.2/6.8MMH	LED528	87-027-542	LED LN217RP (8P PEAK PROG METER)	PCB-N	*	SENSOR-2 CIRCUIT BOARD									
22YP (PAUSE,DECK1)	L304	* 82-196-604	COIL 2.2/6.8MMH	LED529	87-027-542	LED LN217RP (8P PEAK PROG METER)												
(REV PLAY,DECK1)	SFR251	* 87-021-743	SFR 22K	LED530	87-027-542	LED LN217RP (8P PEAK PROG METER)												
(PLAY,DECK1)	SFR252	* 87-021-743	SFR 22K	=== VOLUME CIRCUIT BOARD SECTION ===			=== FUSE CIRCUIT BOARD SECTION ===											
9PR4 (HIGH)	SFR301	* 87-021-743	SFR 22K	PCB-F	*	VOLUME CIRCUIT BOARD	PCB-O	*	FUSE CIRCUIT BOARD SECTION									
9PR4 (NORMAL)	SFR302	* 87-021-743	SFR 22K							VR201	82-196-608	VOLUME 10K (RECORD LEVEL,L)	F1	* 87-033-147	FUSE CLAMP			
22GP (REV PLAY,DECK2)	=== PB. AMP. CIRCUIT BOARD SECTION ===																	
22GP (PLAY,DECK2)	PCB-D	*	PB. AMP. CIRCUIT BOARD	VR202	82-196-608	VOLUME 10K (RECORD LEVEL,R)	F1	87-035-220	FUSE,T630MMA (H MODEL)									
22YP (PAUSE,DECK2)										D151	87-020-110	DIODE 1SS177						
22RP (REC MUTE,DECK2)										D810	87-020-110	DIODE 1SS177						
22RP (RECORD,DECK2)				D813	87-020-110	DIODE 1SS177	=== SWITCH-1 CIRCUIT BOARD SECTION ===											
22RP (1)	D852	87-020-110	DIODE 1SS177	PCB-G	*	SWITCH-1 CIRCUIT BOARD	F1	87-035-145	FUSE,T250MA (E,K,Z,G MODELS)									
22RP (2)										L101	* 82-196-603	COIL,TRAP,100K						
22RP (3)										L102	* 82-196-603	COIL,TRAP,100K						
22RP (4)				SFR101	* 87-021-738	SFR 1K	D824	87-020-110	DIODE 1SS177	=== SUB CIRUCIT BOARD SECTION ===								
22RP (5)	SFR102	* 87-021-738	SFR 1K	D825	87-020-110	DIODE 1SS177	J5	82-109-612	JACK (PHONES)									
22RP (6)										SFR103	* 87-021-742	SFR 10K	S2	82-109-615	ROTARY SW (DOLBY B-C NR)			
22RP (7)										SFR104	* 87-021-742	SFR 10K	S3	82-109-615	ROTARY SW (TIMER)	=== MISCELLANEOUS ===		
22RP (8)				=== FL CIRCUIT BOARD SECTION ===														
22RP (9)	PCB-H	*	FL CIRCUIT BOARD	FL1	* 82-198-601	FL,4ST-01ZS1 4DIGIT	87-034-958		AC CORD (H MODEL)									
22YP (TAPE SIDE A)										=== DISPLAY CIRCUIT BOARD SECTION ===								
22YP (TAPE SIDE B)										PCB-E	*	DISPLAY CIRCUIT BOARD						
22GP (MS,DECK1)	C501	* 87-010-071	CAP,ELECT 1-50V	87-020-132	DOLBY UNIT HA12058J (W/PCB-I)	87-034-578		AC CORD (U,C MODELS)										
22YP (PMS,DECK1)	C503	* 87-014-033	CAP,PP 100PF															
EVQ-QSK04M (REC MUTE,DECK1)	C504	* 87-010-248	CAP,ELECT 220-10V						87-034-877		AC CORD (E,Z MODELS)							
EVQ-QSK04M (PAUSE,DECK1)	C505	* 87-010-414	CAP,ELECT 33-25V	87-034-975			AC CORD (K MODEL)											
EVQ-QSK04M (STOP,DECK1)	C506	* 87-015-697	CAP,ELECT 3.3-50V		=== SWITCH-2 CIRCUIT BOARD SECTION ===													
EVQ-QSK04M (MS,DECK2)	C507	* 87-010-244	CAP,ELECT 22-16V	PCB-J	*	SWITCH-2 CIRCUIT BOARD	87-034-892		AC CORD (G MODEL)									
EVQ-QSK04M (MS,DECK2)	C508	* 87-010-244	CAP,ELECT 22-16V							87-085-184		AC CORD BUSHING D (H,U,C MODELS)						
EVQ-QSK04M (REV PLAY,DECK2)	D501	87-027-405	ZENER RD2.2EB										87-085-185		AC CORD BUSHING E (E,K,Z,G MODELS)			
EVQ-QSK04M (PLAY,DECK2)	D502	87-020-110	DIODE 1SS177	M101			87-045-235	MOTOR MMA6B2LW (DECK1)										
EVQ-QSK04M (PAUSE,DECK2)	D503	87-020-123	DIODE DS446	M102	87-045-235	MOTOR MMA6B2LW (DECK2)	PT1	82-104-648	POWER TRANSFORMER (H MODEL)									
EVQ-QSK04M (REC MUTE,DECK2)	D504	87-020-123	DIODE DS446							82-104-645		POWER TRANSFORMER (U,C MODELS)						
EVQ-QSK04M (RECORD,DECK2)	D506	87-020-110	DIODE 1SS177										82-104-646		POWER TRANSFORMER (E,Z MODELS)			
EVQ-QSK04M (1)	D507	87-020-110	DIODE 1SS177	PT1	82-104-647	POWER TRANSFORMER (K,G MODELS)												
EVQ-QSK04M (2)	LED501	* 87-027-542	LED LN217RP (REC,DECK1)				RPEH1	87-046-259	RPEH HD425821RVJ (DECK1)									
EVQ-QSK04M (3)	LED502	* 87-027-543	LED LN317GP (B TYPE)				RPEH2	87-046-259	RPEH HD425821RVJ (DECK2)									
EVQ-QSK04M (4)	LED503	* 87-027-542	LED LN217RP (REC,DECK2)	S4	87-031-586	ROTARY SW (VOLT.SEL.) (H MODEL)	Note: Combination Circuit Board											
EVQ-QSK04M (5)	LED504	* 87-027-542	LED LN217RP (C TYPE)	The parts on the electrical parts list which are indicated by an														
EVQ-QSK04M (6)	LED505	* 87-027-773	LED,GL-9NG4 (◀,DECK1)	asterisk (*) are supplied as one single combined circuit board.														
EVQ-QSK04M (7)	LED506	* 87-027-773	LED,GL-9NG4 (▶,DECK1)	Therefore, they will not be supplied separately. If this becomes														
EVQ-QSK04M (8)	LED507	* 87-027-773	LED,GL-9NG4 (◀,DECK2)	necessary,please order the entire circuit board.														
EVQ-QSK04M (9)	LED508	* 87-027-773	LED,GL-9NG4 (▶,DECK2)	Combination circuit board A 82-104-630														
EVQ-QSK04M (10)	LED509	* 87-027-542	LED LN217RP (C,DECK1)	PCB-A 82-104-631														
EVQ-QSK04M (11)	LED510	* 87-027-542	LED LN217RP (D,DECK1)	PCB-O 82-104-605														
EVQ-QSK04M (12)	LED511	* 87-027-542	LED LN217RP (E,DECK1)	PCB-P 82-104-639														
EVQ-QSK04M (13)	LED512	* 87-027-542	LED LN217RP (F,DECK2)	Combination circuit board B 82-109-601														
EVQ-QSK04M (14)	LED513	* 87-027-542	LED LN217RP (G,DECK2)	PCB-B 82-109-604														
EVQ-QSK04M (15)	LED514	* 87-027-542	LED LN217RP (H,DECK2)	PCB-C 82-109-604														
EVQ-QSK04M (16)	LED515	* 87-027-543	LED,LN317GP (8P PEAK PROG METER)	PCB-D 82-109-605														
EVQ-QSK04M (17)	LED516	* 87-027-543	LED,LN317GP (8P PEAK PROG METER)	PCB-E 82-109-606														
EVQ-QSK04M (18)	LED517	* 87-027-543	LED,LN317GP (8P PEAK PROG METER)	PCB-F 82-109-603														
EVQ-QSK04M (19)	LED518	* 87-027-543	LED,LN317GP (8P PEAK PROG METER)	PCB-G 82-109-608														
EVQ-QSK04M (20)	LED519	* 87-027-543	LED,LN317GP (8P PEAK PROG METER)	PCB-H 82-109-607														
EVQ-QSK04M (21)	LED520	* 87-027-543	LED,LN317GP (8P PEAK PROG METER)	PCB-J 82-109-609														
EVQ-QSK04M (22)	LED521	* 87-027-542	LED,LN217RP (8P PEAK PROG METER)	Combination circuit board C 86-517-601														
EVQ-QSK04M (23)	LED522	* 87-027-542	LED,LN217RP (8P PEAK PROG METER)	PCB-K,L 86-517-602														
EVQ-QSK04M (24)	LED523	* 87-027-542	LED,LN217RP (8P PEAK PROG METER)	PCB-M,N 86-517-603														
EVQ-QSK04M (25)	LED524	* 87-027-542	LED,LN217RP (8P PEAK PROG METER)	Safety component symbol														
EVQ-QSK04M (26)	LED525	87-027-542	LED LN217RP (8P PEAK PROG METER)	This symbol is given to important parts which serve to maintain														
EVQ-QSK04M (27)	LED526	87-027-542	LED LN217RP (8P PEAK PROG METER)	the safety of the product, and which are made to conform to special														
EVQ-QSK04M (28)	safety specifications. Therefore, when replacing a component with																	
EVQ-QSK04M (29)	this symbol, make absolutely sure that you use a designated part.																	
EVQ-QSK04M (30)																		
EVQ-QSK04M (31)																		
EVQ-QSK04M (32)																		
EVQ-QSK04M (33)																		
EVQ-QSK04M (34)																		
EVQ-QSK04M (35)																		
EVQ-QSK04M (36)																		
EVQ-QSK04M (37)																		
EVQ-QSK04M (38)																		
EVQ-QSK04M (39)																		
EVQ-QSK04M (40)																		
EVQ-QSK04M (41)																		
EVQ-QSK04M (42)																		
EVQ-QSK04M (43)																		
EVQ-QSK04M (44)																		
EVQ-QSK04M (45)																		
EVQ-QSK04M (46)																		
EVQ-QSK04M (47)																		
EVQ-QSK04M (48)																		
EVQ-QSK04M (49)																		
EVQ-QSK04M (50)																		
EVQ-QSK04M (51)																		
EVQ-QSK04M (52)																		
EVQ-QSK04M (53)																		
EVQ-QSK04M (54)																		
EVQ-QSK04M (55)																		
EVQ-QSK04M (56)																		
EVQ-QSK04M (57)																		
EVQ-QSK04M (58)																		
EVQ-QSK04M (59)																		
EVQ-QSK04M (60)																		
EVQ-QSK04M (61)																		
EVQ-QSK04M (62)																		
EVQ-QSK04M (63)																		
EVQ-QSK04M (64)																		
EVQ-QSK04M (65)																		
EVQ-QSK04M (66)																		
EVQ-QSK04M (67)																		
EVQ-QSK04M (68)																		
EVQ-QSK04M (69)																		
EVQ-QSK04M (70)																		
EVQ-QSK04M (71)																		
EVQ-QSK04M (72)																		
EVQ-QSK04M (73)																		
EVQ-QSK04M (74)																		
EVQ-QSK04M (75)																		
EVQ-QSK04M (76)																		
EVQ-QSK04M (77)																		
EVQ-QSK04M (78)																		
EVQ-QSK04M (79)																		
EVQ-QSK04M (80)																		
EVQ-QSK04M (81)																		
EVQ-QSK04M (82)																		
EVQ-QSK04M (83)																		
EVQ-QSK04M (84)																		
EVQ-QSK04M (85)																		
EVQ-QSK04M (86)																		
EVQ-QSK04M (87)																		
EVQ-QSK04M (88)																		
EVQ-QSK04M (89)																		
EVQ-QSK04M (90)																		
EVQ-QSK04M (91)																		
EVQ-QSK04M (92)																		
EVQ-QSK04M (93)																		
EVQ-QSK04M (94)																		
EVQ-QSK04M (95)																		
EVQ-QSK04M (96)																		
EVQ-QSK04M (97)																		
EVQ-QSK04M (98)																		
EVQ-QSK04M (99)																		
EVQ-QSK04M (100)																		
EVQ-QSK04M (101)																		
EVQ-QSK04M (102)																		
EVQ-QSK04M (103)																		
EVQ-QSK04M (104)																		
EVQ-QSK04M (105)																		
EVQ-QSK04M (106)																		
EVQ-QSK04M (107)																		
EVQ-QSK04M (108)																		
EVQ-QSK04M (109)																		
EVQ-QSK04M (110)																		
EVQ-QSK04M (111)																		
EVQ-QSK04M (112)																		
EVQ-QSK04M (113)																		
EVQ-QSK04M (114)																		
EVQ-QSK04M (115)																		
EVQ-QSK04M (116)																		
EVQ-QSK04M (117)																		
EVQ-QSK04M (118)																		
EVQ-QSK04M (119)																		
EVQ-QSK04M (120)																		
EVQ-QSK04M (121)																		
EVQ-QSK04M (122)																		
EVQ-QSK04M (123)																		
EVQ-QSK04M (124)																		
EVQ-QSK04M (125)																		
EVQ-QSK04M (126)																		
EVQ-QSK04M (127)																		
EVQ-QSK04M (128)																		
EVQ-QSK04M (129)																		
EVQ-QSK04M (130)																		
EVQ-QSK04M (131)																		
EVQ-QSK04M (132)																		
EVQ-QSK04M (133)																		
EVQ-QSK04M (134)																		
EVQ-QSK04M (135)																		
EVQ-QSK04M (136)																		
EVQ-QSK04M (137)																		
EVQ-QSK04M (138)																		
EVQ-QSK04M (139)																		
EVQ-QSK04M (140)																		
EVQ-QSK04M (141)																		
EVQ-QSK04M (142)																		
EVQ-QSK04M (143)																		
EVQ-QSK04M (144)																		
EVQ-QSK04M (145)																		
EVQ-QSK04M (146)																		
EVQ-QSK04M (147)																		
EVQ-QSK04M (148)																		
EVQ-QSK04M (149)																		
EVQ-QSK04M (150)																		
EVQ-QSK04M (151)																		
EVQ-QSK04M (152)																		
EVQ-QSK04M (153)																		
EVQ-QSK04M (154)																		
EVQ-QSK04M (155)																		
EVQ-QSK04M (156)																		
EVQ-QSK04M (157)																		
EVQ-QSK04M (158)																		
EVQ-QSK04M (159)																		
EVQ-QSK04M (160)																		
EVQ-QSK04M (161)																		
EVQ-QSK04M (162)																		
EVQ-QSK04M (163)																		
EVQ-QSK04M (164)																		
EVQ-QSK04M (165)																		
EVQ-QSK04M (166)																		
EVQ-QSK04M (167)																		
EVQ-QSK04M (168)																		
EVQ-QSK04M (169)																		
EVQ-QSK04M (170)																		
EVQ-QSK04M (171)																		
EVQ-QSK04M (172)																		
EVQ-QSK04M (173)																		
EVQ-QSK04M (174)																		
EVQ-QSK04M (175)																		
EVQ-QSK04M (176)																		
EVQ-QSK04M (177)																		
EVQ-QSK04M (178)																		
EVQ-QSK04M (179)																		
EVQ-QSK04M (180)																		
EVQ-QSK04M (181)																		
EVQ-QSK04M (182)																		
EVQ-QSK04M (183)																		
EVQ-QSK04M (184)																		
EVQ-QSK04M (185)																		
EVQ-QSK04M (186)																		
EVQ-QSK04M (187)																		
EVQ-QSK04M (188)																		
EVQ-QSK04M (189)																		
EVQ-QSK04M (190)																		
EVQ-QSK04M (191)																		
EVQ-QSK04M (192)																		
EVQ-QSK04M (193)																		
EVQ-QSK04M (194)																		
EVQ-QSK04M (195)																		
EVQ-QSK04M (196)																		
EVQ-QSK04M (197)																		
EVQ-QSK04M (198)																		
EVQ-QSK04M (199)																		
EVQ-QSK04M (200)																		
EVQ-QSK04M (201)																		
EVQ-QSK04M (202)																		
EVQ-QSK04M (203)																		
EVQ-QSK04M (204)																		
EVQ-QSK04M (205)																		
EVQ-QSK04M (206)																		
EVQ-QSK04M (207)																		
EVQ-QSK04M (208)																		
EVQ-QSK04M (209)																		
EVQ-QSK04M (210)																		
EVQ-QSK04M (211)																		
EVQ-QSK04M (212)																		
EVQ-QSK04M (213)																		
EVQ-QSK04M (214)																		
EVQ-QSK04M (215)																		
EVQ-QSK04M (216)																		
EVQ-QSK04M (217)																		
EVQ-QSK04M (218)																		
EVQ-QSK04M (219)																		
EVQ-QSK04M (220)																		
EVQ-QSK04M (221)																		
EVQ-QSK04M (222)																		
EVQ-QSK04M (223)																		
EVQ-QSK04M (224)																		
EVQ-QSK04M (225)																		
EVQ-QSK04M (226)																		
EVQ-QSK04M (227)																		
EVQ-QSK04M (228)																		
EVQ-QSK04M (229)																		
EVQ-QSK04M (230)																		
EVQ-QSK04M (231)																		
EVQ-QSK04M (232)																		
EVQ-QSK04M (233)																		
EVQ-QSK04M (234)																		
EVQ-QSK04M (235)																		
EVQ-QSK04M (236)																		
EVQ-QSK04M (237)																		
EVQ-QSK04M (238)																		
EVQ-QSK04M (239)																		
EVQ-QSK04M (240)																		
EVQ-QSK04M (241)																		
EVQ-QSK04M (242)																		
EVQ-QSK04M (243)																		
EVQ-QSK04M (244)																		
EVQ-QSK04M (245)																		
EVQ-QSK04M (246)																		
EVQ-QSK04M (247)																		
EVQ-QSK04M (248)																		
EVQ-QSK04M (249)																		
EVQ-QSK04M (250)																		

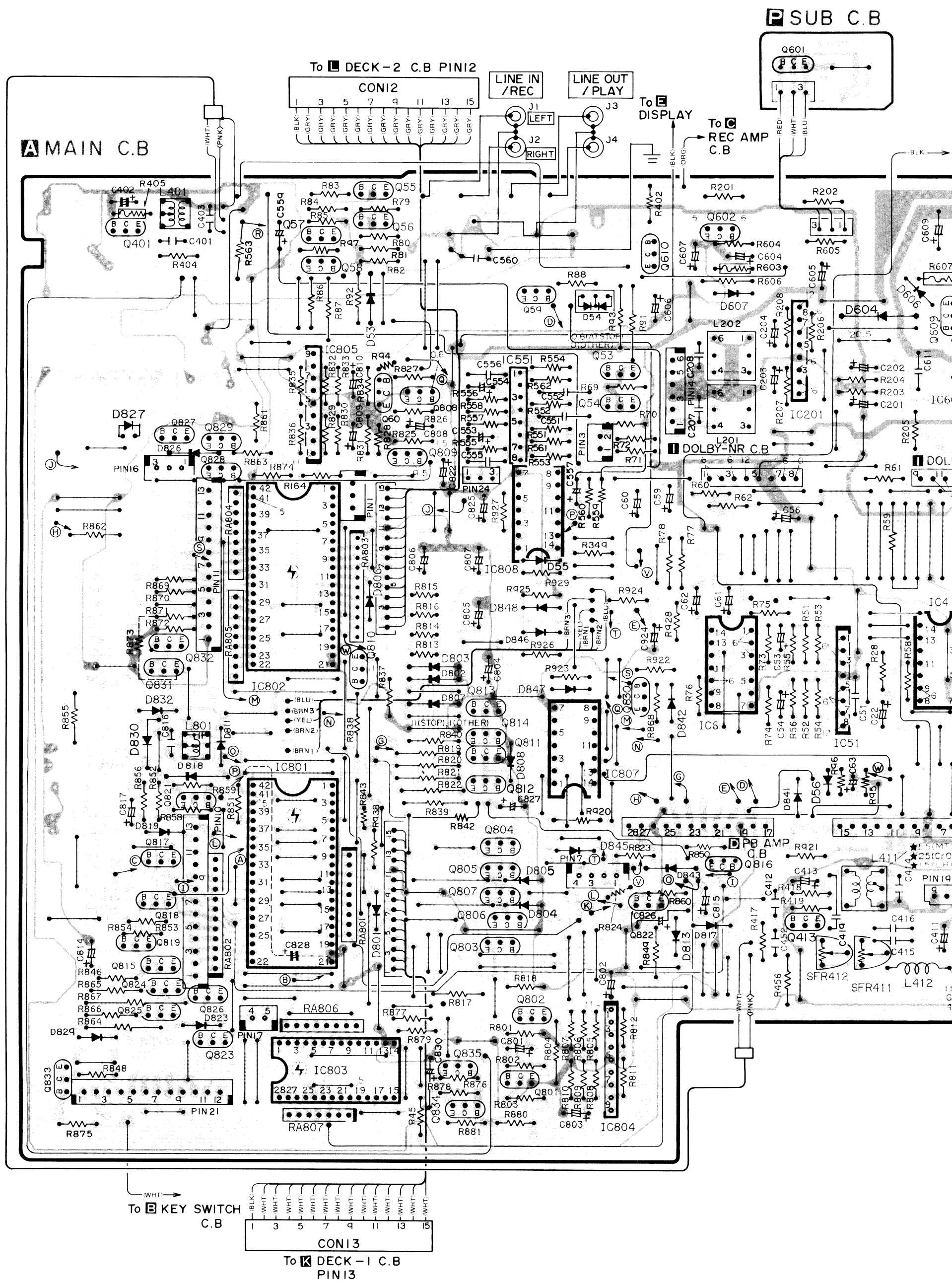


BLOCK DIAGRAM (AD-WX200, WX20)



IC BLOCK DIAGRAM (AD-WX200, WX20)

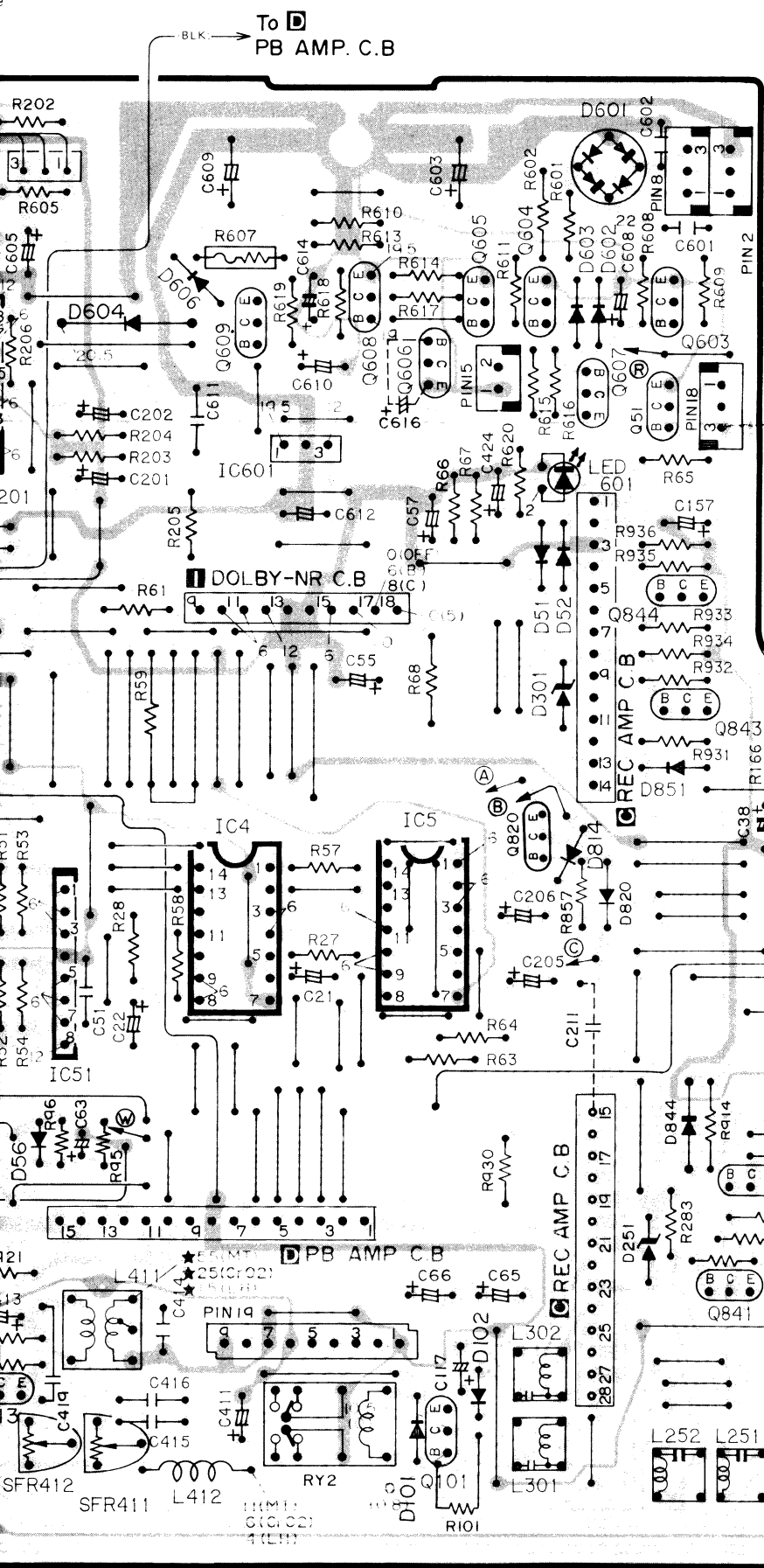
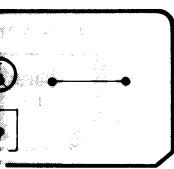




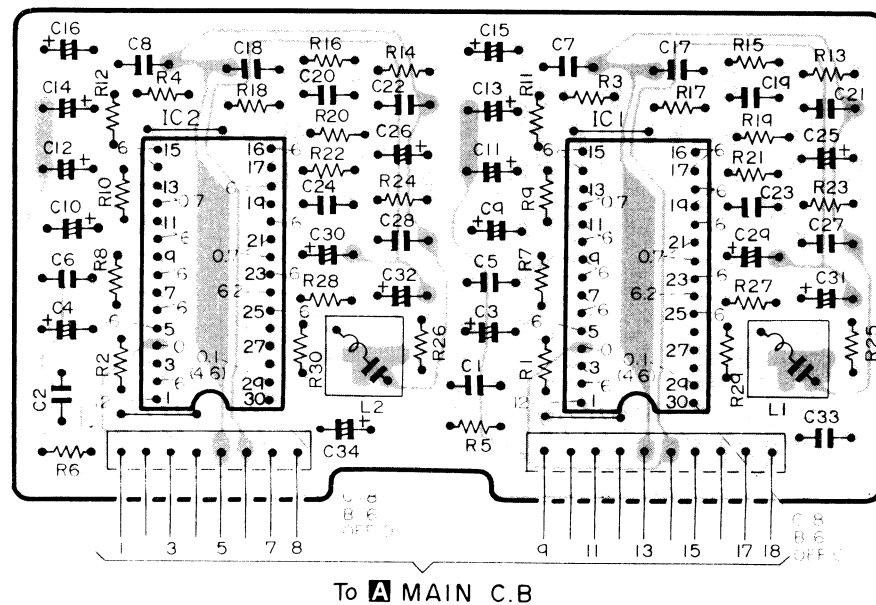
NOTES

- (1) Earth pattern Others pattern
- (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals. An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

UB C.B

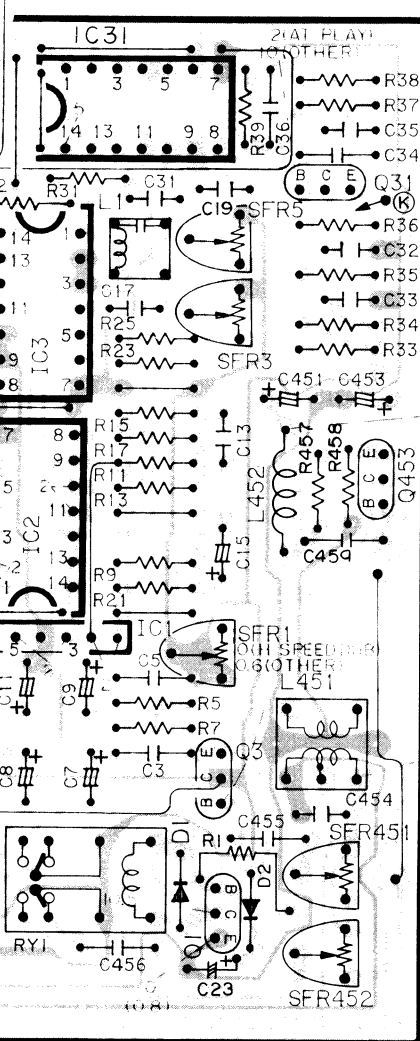


DOLBY-NR C.B



To A MAIN C.B

To E KEY SWITCH C.B



1(MT)
6(CrO2)
4(LH)

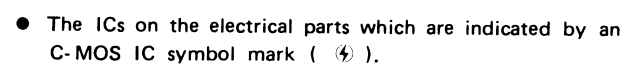
★55(MT)
★25(CrO2)
★55(LH)

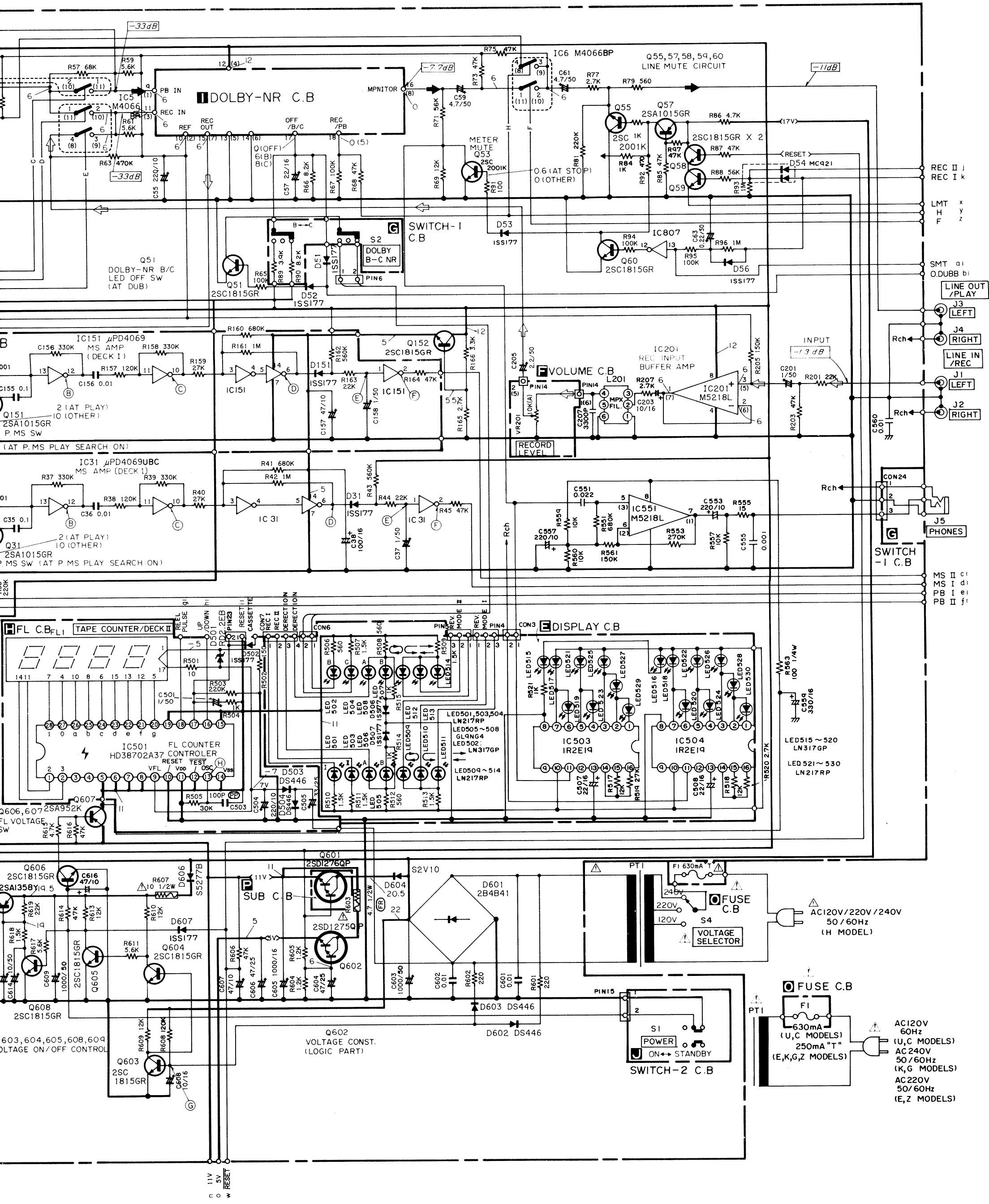
C-MOS IC handling precaution

The C-MOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care in regard to following articles.

1. Need to be put on conductive sheet, to be put in a metallic box and to be wrapped by aluminium foil for transportation and deposit.
2. To use solder iron less than 40W (less than 260°C) of power consumption for soldering. But do not overheat more than 10 second.
3. Do not perform a conductivity test with a tester, etc. Refer to the circuit voltages of each part.
4. The ICs on the electrical parts which are indicated by an C-MOS IC symbol mark ().

IC 51
FLAT AMP





NOTES:

- 1) B (+) power supply
- 2) Signal path
Rec path
- 3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
- 4) Resistors with no designation have a rated power of 1/8W and a tolerance of ±5%.
- 5) Capacitors with no designation have a dielectric strength of less than 50WV.
- 6) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
- 7) Ceramic capacitor symbols:
For temperature compensation (SL)
High dielectric constant system (YY)
High dielectric constant system (YW, YP, YZ)
Semiconductor ceramic
For temperature compensation (SH)

8) Explanation of symbols

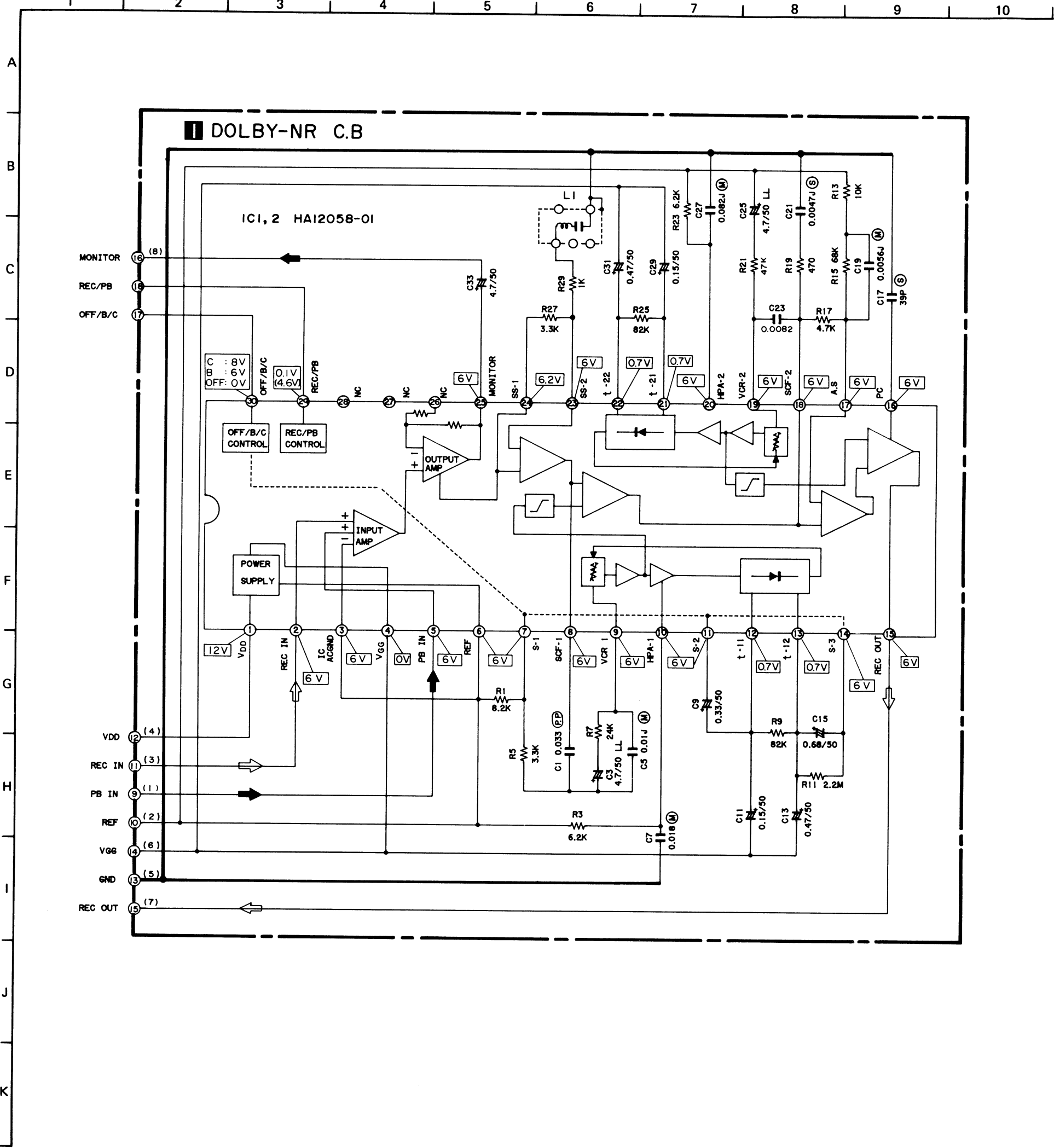
- Mylar capacitor
Aluminum solid capacitor
Polypropylene film capacitor
Bi-polarized capacitor
Low-leakage capacitor
Tantalum capacitor
Styrol capacitor
Fuse resistor
Nonflammable resistor

Safety component symbol

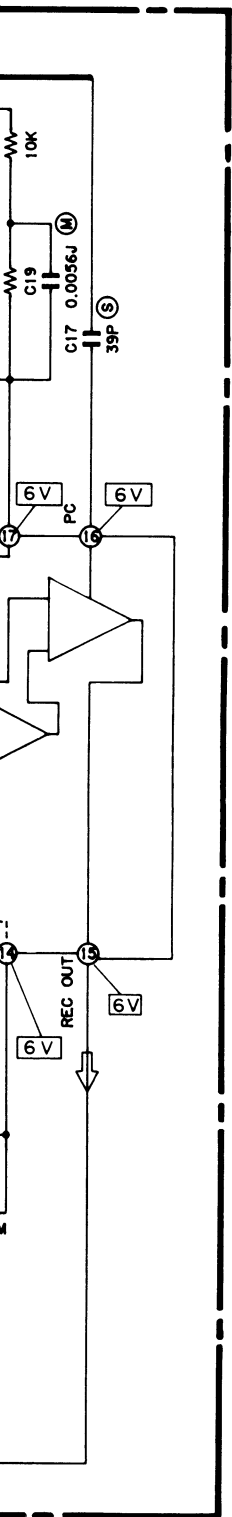
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

- This schematic diagram is subject to change without notice in the interests of improved performance.

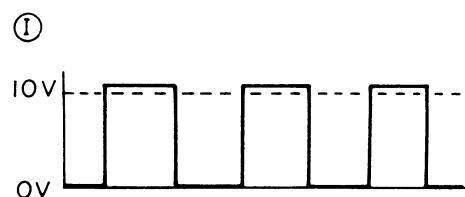
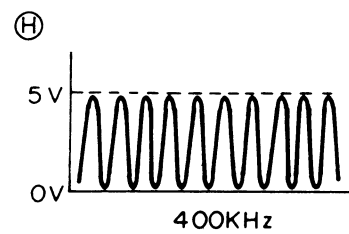
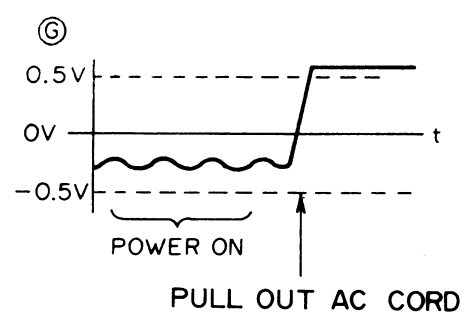
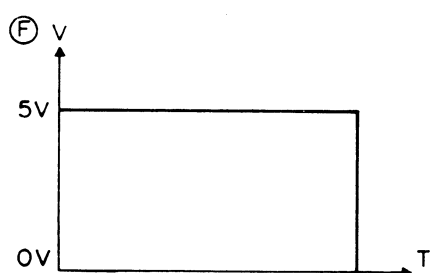
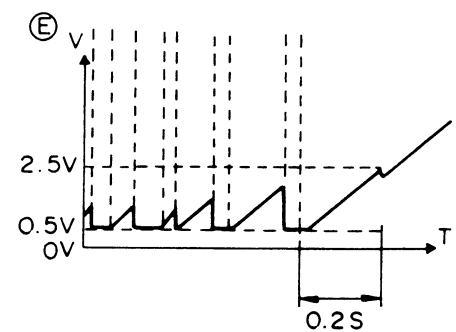
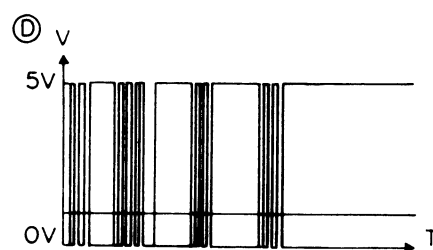
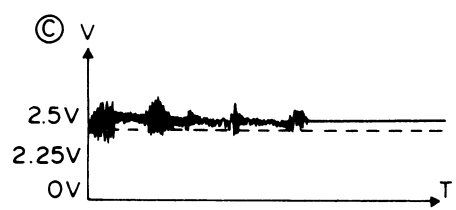
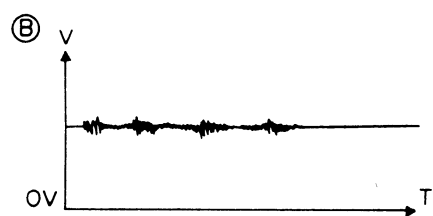
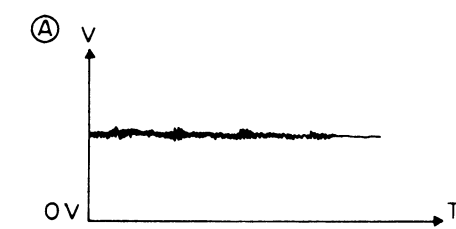
SCHEMATIC DIAGRAM-2 (AD-WX200, WX20)



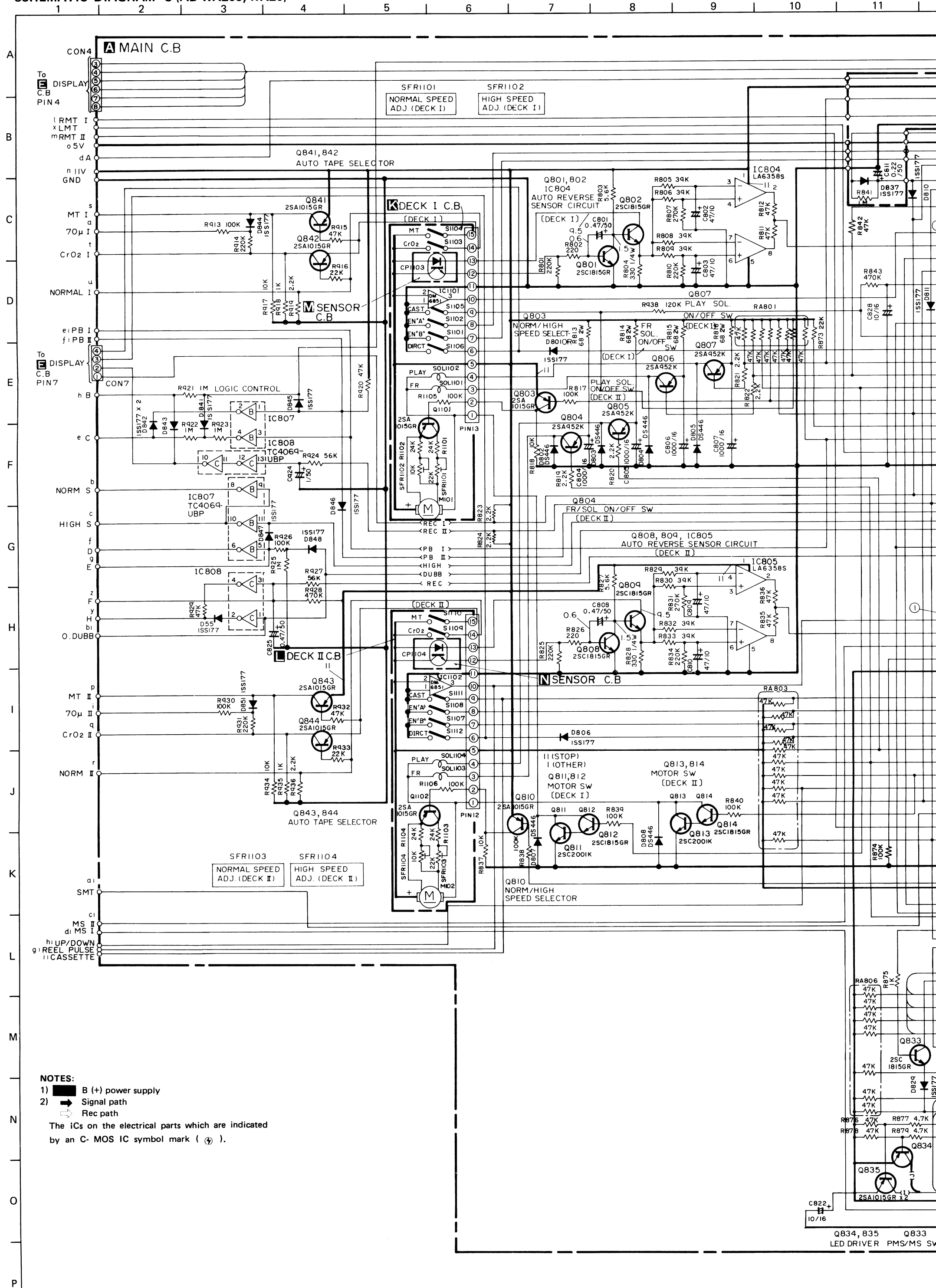
9 10

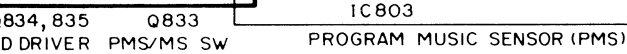


WAVEFORMS (AD-WX200, WX20)



SCHEMATIC DIAGRAM-3 (AD-WX200, WX20)





RESET

Practical Service Figure

Wow and flutter:	FWD. side Less than 0.08% REV. side Less than 0.085%	Playback noise:	Less than 2.0mV (CrO ₂ , DOLBY B NR ON) Less than 3.0mV (NORMAL, DOLBY NR OFF)	Channel separation:	More than 30dB (1kHz, 0VU)
Pinch roller pressure:	290±70g (2.8±0.7N) (DECK I, II)	PB/REC Output:	380mV±2dB (DECK II) (0VU)	Erasing ratio:	More than 55dB (DECK II) (125 Hz)
Take up torque:	30~60g·cm (2.9~5.9mN·m) (DECK I, II)	PB/REC	METAL: Less than 3.0% (DECK II)	Test tape:	• TTA-119MX (METAL) • TTA-119G (CrO ₂) • TTA-119J (NORMAL)
F. FWD torque:	130±30g·cm (12.7±2.9mN·m) (DECK I, II)	Distortion:	CrO ₂ : Less than 2.5% (DECK II)		
Rewind torque:	130±30g·cm (12.7±2.9mN·m) (DECK I, II)	PB/REC Signal	More than 42/45dB (DECK II) (METAL, CrO ₂ DOLBY B NR OFF/ON)		
Back tension:	2.5~5.5g·cm (0.24~0.54mN·m) (DECK I, II)	noise ratio:	More than 40/43dB (DECK II) (NORMAL, DOLBY B NR OFF/ON)		
Playback output:	580mV±1dB (LINE) (TTA-161)				
Bias frequency:	100kHz (DECK II)				

ADJUSTMENT (AD-WX200, WX20)

8. REC/PB Sensitivity Adjustment (DECK I, DECK II)

Settings: • Test tape: TTA-119J
• Test point: TP-4, TP-5
• Dolby NR: Switch off
• Adjustment location:
SFR-251 (Lch, Deck I)
SFR-252 (Rch, Deck I)
SFR-301 (Lch, Deck II)
SFR-302 (Rch, Deck II)

Method: Set to the REC mode. Apply 1kHz signal so as to obtain 410mV at the TP-4 and TP-5. Then, record this level of the signal on the test tape and playback it. Adjust the SFRs until the playback level becomes 410mV±0.5dB.

Specification: TTA-119G: 410mV±1dB
TTA-119MP: 410mV±1.5dB

9. High Speed Dubbing REC/PB Frequency Response

Settings: • Test tape: TTA-317H (Deck I)
TTA-119G (Deck II)
• Test point: LINE OUT/PLAY
• Adjustment location: SFR-3 (Lch)
SFR-4 (Rch)

Method: In the high speed dubbing mode, adjust the SFRs to obtain the level difference of +1dB or less between 1kHz and 10kHz signals.

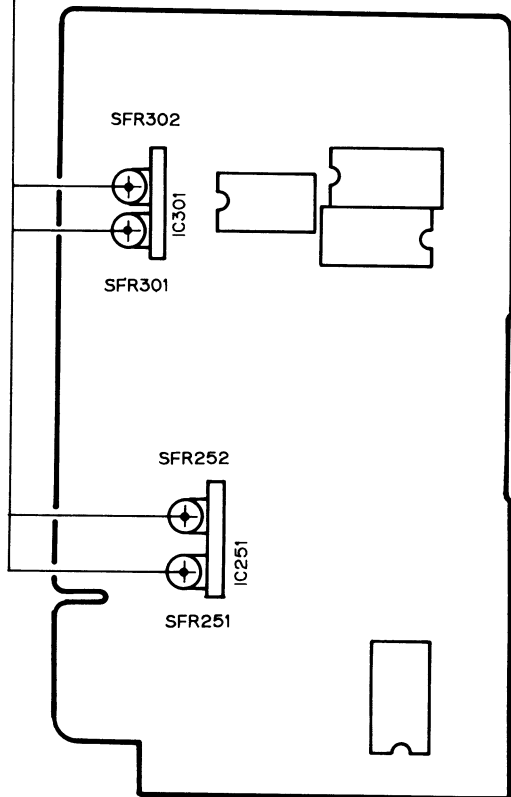
Specification: TTA-119G: 1±3dB
TTA-119MP: 1±3dB

6. Oscillation Frequency Adjustment

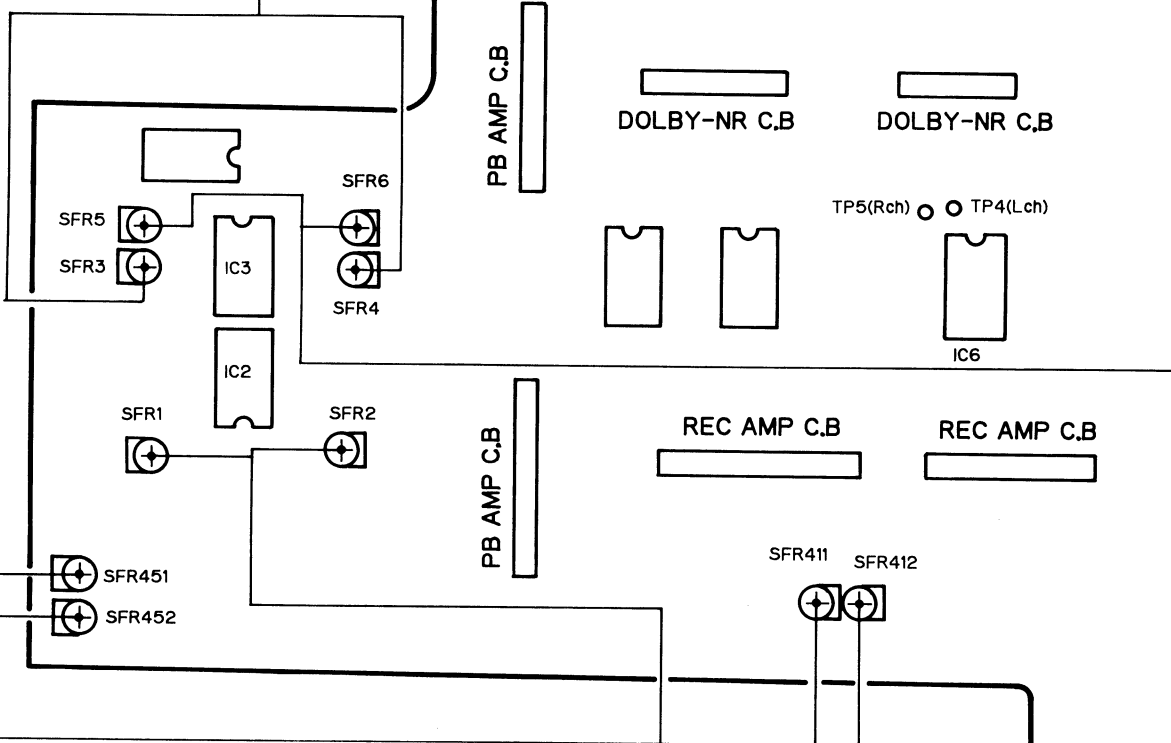
Settings: • Test tape: TTA-119J
• Test point: TP-3
• Adjustment location: L401

Method: Install the test tape and set to the REC mode. Connect a frequency counter to the test point TP-3 and adjust the coil L401 for 100kHz±300Hz.

D PB AMP C.B



A MAIN C.B



7. REC/PB Frequency Response Adjustment (DECK I, DECK II)

Settings: • Test tape: TTA-119J
• Test point: TP-4, TP-5
• Input signal level: 230mV
• REC volume: Center detent position
• Dolby NR: Switch off
• Adjustment location:
SFR-451 (Lch, Deck I)
SFR-452 (Rch, Deck I)
SFR-411 (Lch, Deck II)
SFR-412 (Rch, Deck II)

Method: Install the test tape and set to the REC mode. Apply 1kHz signal and obtain 410mV at the test points. After lowered the input signal level by -20dB, record the signals of 1kHz and 10kHz on the test tape. Then, playback the 1kHz and 10kHz. Adjust the SFRs so that the 10kHz output becomes equal the 1kHz output (0±1dB).

Specification: TTA-119G: +1^{+1.5}₋₁ dB
TTA-119MP: -1⁺²_{-1.5} dB

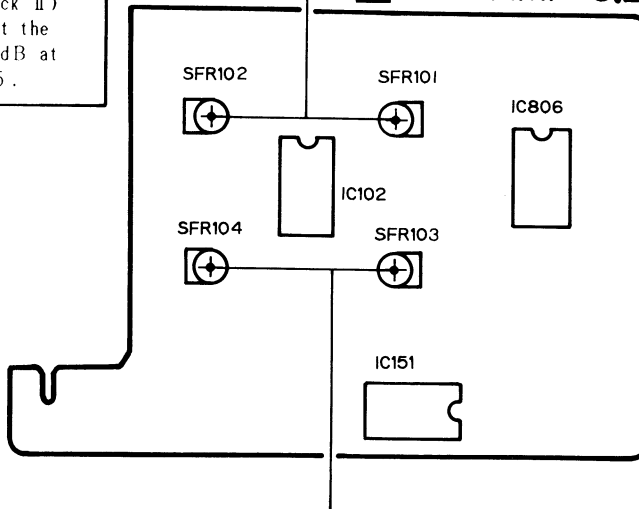
Note: To adjust the deck I, set to the double REC mode.

4. Playback Sensitivity Adjustment (DECK I, DECK II)

Settings: • Test tape: TTA-161
• Test point: TP-4, TP-5
• Dolby NR: Switch off
• Adjustment location:
SFR-1 (Lch, Deck I)
SFR-2 (Rch, Deck I)
SFR-101 (Lch, Deck II)
SFR-102 (Rch, Deck II)

Method: Playback the test tape and adjust the SFRs to obtain 580mV±0.5dB at the test point TP-4 and TP-5.

C REC AMP C.B



5. Playback Frequency Response Adjustment (DECK I, DECK II)

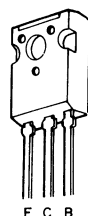
Settings: • Test tape: TTA-119J
• Test point: TP-4, TP-5
• Adjustment location:
SFR-101 (Lch, Deck II)
SFR-102 (Rch, Deck II)

Method: Playback the test tape and adjust the SFRs to obtain 580mV±0.5dB at the test point TP-4 and TP-5.

(DECK II)
(METAL)
(CrO₂)
(NORMAL)



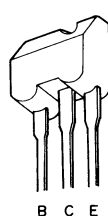
2SA952
2SA1015



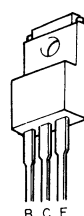
2SA1358



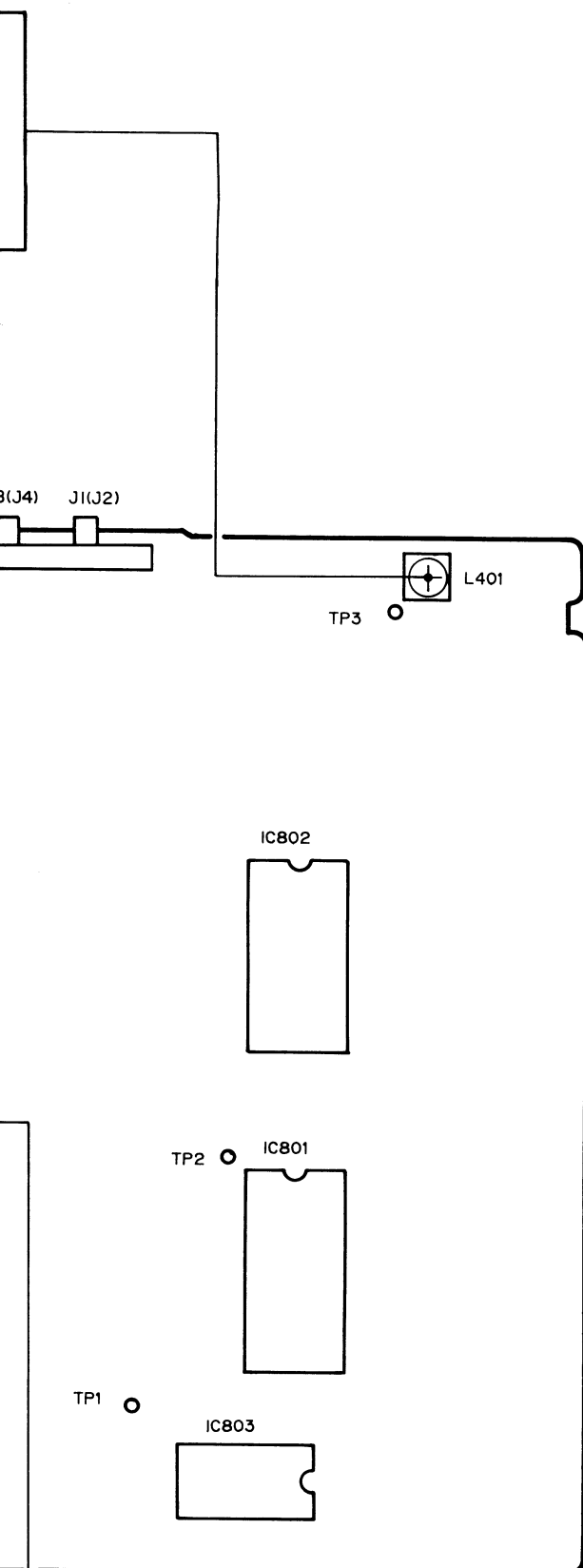
2SB605



2SB641

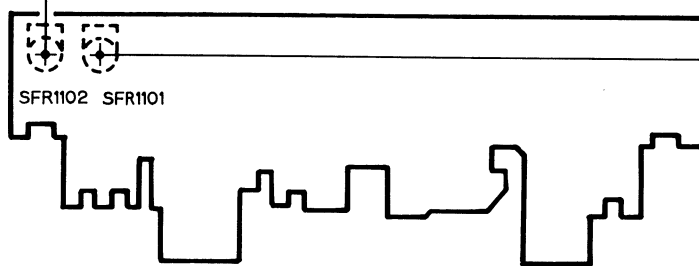


2SD1276

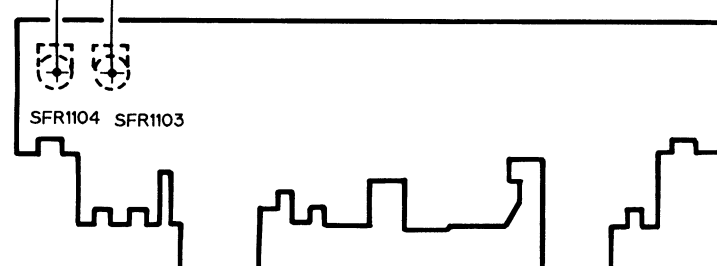


2. High Speed Adjustment
(DECK I, DECK II)
Settings: • Test tape: TTA-111H
• Test point: LINE OUT/PLAY
• Adjustment location:
SFR-1102 (Deck I)
SFR-1104 (Deck II)
Method: Connect the test point TP-1 (TP-2) to the chassis earth so that the mode can be set to the high speed condition. Then, playback the test tape and adjust the SFRs for frequency of 3,000Hz. Make the test point TP-1 (TP-2) free after completed the adjustment.

3. Normal Speed Adjustment
(DECK I, DECK II)
Settings: • Test tape: TTA-111
• Test point: LINE OUT/PLAY
• Adjustment location:
SFR-1101 (Deck I)
SFR-1103 (Deck II)
Method: Playback the test tape and adjust the SFRs for frequency of 3,000 Hz.
Note: Perform the high speed adjustment first, before adjusting this method.



M DECK I C.B



N DECK II C.B

R/PB/E HEAD
(DECK I, DECK II)

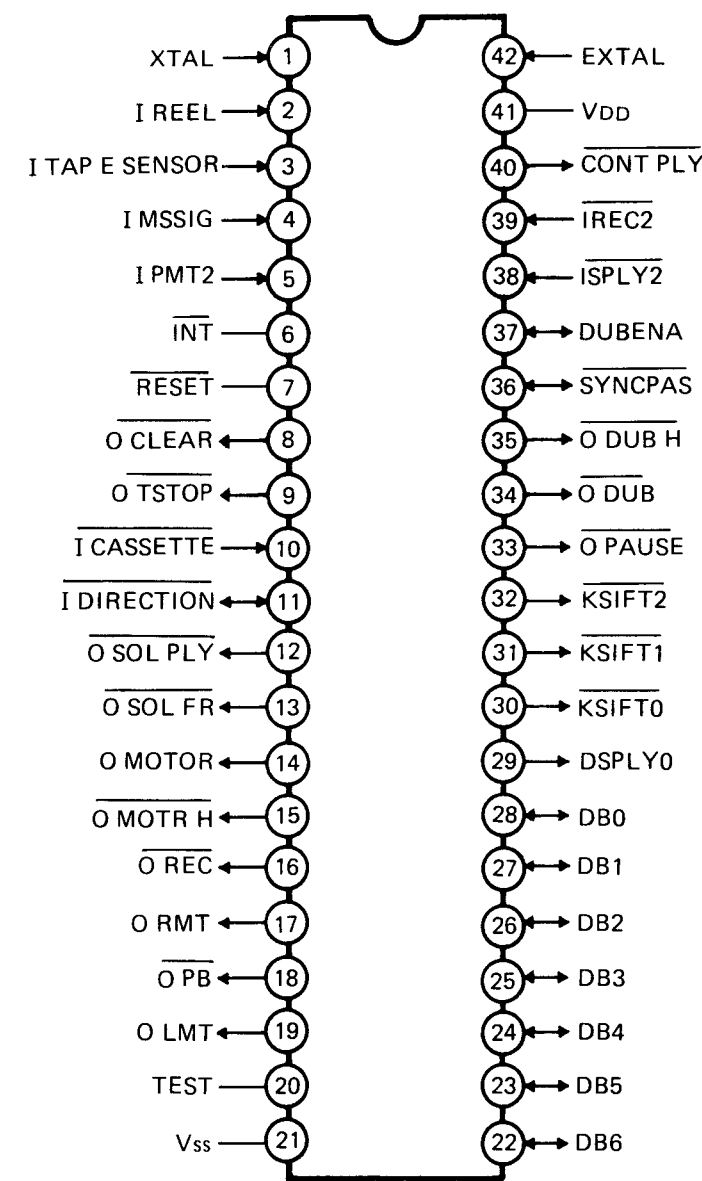
FWD REV

1. Azimuth Adjustment (DECK I, DECK II)
Settings: • Test tape: TTA-317H
• Adjustment location: Azimuth adjustment screw
Method: Playback the 10kHz section of the test tape and adjust the screw for maximum output. Both modes (Forward Play and Reverse Play) must be performed.

5. Playback Frequency Response Adjustment
(DECK I, DECK II)
Settings: • Test tape: TTA-317H
• Test point: LINE OUT/PLAY
• Dolby NR: Switch off
• Adjustment location:
SFR-5 (Lch, Deck I)
SFR-6 (Rch, Deck I)
SFR-103 (Lch, Deck II)
SFR-104 (Rch, Deck II)
Method: Playback the test tape and adjust the SFRs so that the 10kHz output becomes equal the 1kHz output (0dB).

DISCRIPTION OF IC TERMINAL
1. IC, LM6402Z

1-1. Terminal name DECK I



Signal flow in the direction indicated by the arrow.

Fig.-1

1-2. Pin function

Pin No.	Pin Symbol	Description			
		Matrix Key Input			LED Indication Output (Lights with "L")
		KSIFT0 is "L"	KSIFT1 is "L"	KSIFT2 is "L"	DSPLY0 is "L"
28	DB0	RVS MODE SW input	REC MUTE key input	REC ENA. B SW input	—
27	DB1	RVS MODE SW input	PAUSE key input	REC ENA. A SW input	REC MUTE indication
26	DB2	—	STOP key input	DOUBLE REC SW input	PAUSE indication
25	DB3	TIMER PLAY SW input	FF key input	CONT. REC SW input	RVS PLAY indication
24	DB4	—	FWD PLAY key input	BLANK SKIP SW input	FWD PLAY indication
23	DB5	HIGH DUB key input	RVS PLAY key input	DOUBLE REC key input	HIGH DUB indication
22	DB6	NOR DUB key input	REW key input	KSTOP2 key input	NOR DUB indication
30	KSIFT0	Matrix key inputs and display outputs. KSIFT0 KSIFT1 KSIFT2 DSPLY0 Waveform at pins			
31	KSIFT1				
32	KSIFT2				
29	DSPLY0				
33	O PAUSE	Outputs "L" when the mechanism is in the PAUSE modes.			
1	XTAL	MPU clock input.			
2	I REEL	AUTO STOP detection input.			
3	I TAPE SENSOR	Tape end sensor input.			
4	I MSSIG	MS inter-tune detection input. Set to "L" between tunes.			
5	I PMTII	PLAY MUTE control input.			
6	INT	Connected to +5 [V].			
7	RESET	MPU reset input. MPU is reset with "L".			
8	O CLEAR	Outputs "L" when the cassette is removed, the stop key is ressed in F. F/RWD modes and REC is started.			
9	O TSTOP	Set to "L" when the reel disk stops and no cassette is in the mechanism. Outputs "H" when one of F. F, RWD, FWD PLAY and RVS PLAY keys is pressed.			
10	I CASSETTE	Cassette detection input. Set to "L" when a cassette is in.			
11	I DIRECT.	Head direction detection input/output. With "L", the head faces the forward side.			
12	O SOL PLY	PLAY plunger output. With "L", the plunger is attracted. (Refer to the timing chart)			
13	P SOL FR	FF/RWD plunger output. With "L", the plunger is attracted. (Refer to the timing chart)			

Pin No.	Pin Symbol	
14	O MOTOR	Motor ON/OFF output.
15	O MOTRH	Motor high-speed output.
16	O REC	REC output. Set to "L" in PAUSE modes.
17	O RMT	REC MUTE output. Set to "L" when the deck is in the PAUSE mode.
18	O PB	Set to "L" when the deck is in the PAUSE mode.
19	O LMT	LINE MUTE output. Set to "L" when the deck is in the PAUSE mode.
20	TEST	Connected to 0 [V].
21	Vss	
34	O DUB	Set to "L" during DUB.
35	O DUB. H	Set to "L" during High-Speed DUB.
36	SYNCPAS	Set to "H" during DUB. REV when this pin is set to "H".
37	DUBENA	DUB start output and DUB enable input.
38	ISPLYII	Input to detect the DECK I.
39	IRECII	Input to detect the DECK I.
40	CONTPLY	Continuous play output.
41	VDD	Connected to +5 [V].
42	EXTAL	

1-2. Pin function

Pin No.	Pin Symbol	Description			
		Matrix Key Input			LED Indication Output (Lights with "L")
		KSIFT0 is "L"	KSIFT1 is "L"	KSIFT2 is "L"	DSPLY0 is "L"
28	DB0	RVS MODE SW input	REC MUTE key input	REC ENA. B SW input	—
27	DB1	RVS MODE SW input	PAUSE key input	REC ENA. A SW input	REC MUTE indication
26	DB2	—	STOP key input	DOUBLE REC SW input	PAUSE indication
25	DB3	TIMER PLAY SW input	FF key input	CONT. REC SW input	RVS PLAY indication
24	DB4	—	FWD PLAY key input	BLANK SKIP SW input	FWD PLAY indication
23	DB5	HIGH DUB key input	RVS PLAY key input	DOUBLE REC key input	HIGH DUB indication
22	DB6	NOR DUB key input	REW key input	KSTOP2 key input	NOR DUB indication
30	KSIFT0	Matrix key inputs and display outputs. KSIFT0 KSIFT1 KSIFT2 DSPLY0 Waveform at pins			
31	KSIFT1				
32	KSIFT2				
29	DSPLY0				
33	O PAUSE				
1	XTAL	Outputs "L" when the mechanism is in the PAUSE modes.			
1	XTAL	MPU clock input.			
2	I REEL	AUTO STOP detection input.			
3	I TAPE SENSOR	Tape end sensor input.			
4	I MSSIG	MS inter-tune detection input. Set to "L" between tunes.			
5	I PMTI	PLAY MUTE control input.			
6	INT	Connected to +5 [V].			
7	RESET	MPU reset input. MPU is reset with "L".			
8	O CLEAR	Outputs "L" when the cassette is removed, the stop key is ressed in F. F/RWD modes and REC is started.			
9	O TSTOP	Set to "L" when the reel disk stops and no cassette is in the mechanism. Outputs "H" when one of F. F, RWD, FWD PLAY and RVS PLAY keys is pressed.			
10	I CASSETTE	Cassette detection input. Set to "L" when a cassette is in.			
11	I DIRECT.	Head direction detection input/output. With "L", the head faces the forward side.			
12	O SOL PLY	PLAY plunger output. With "L", the plunger is attracted. (Refer to the timing chart)			
13	P SOL FR	FF/RWD plunger output. With "L", the plunger is attracted. (Refer to the timing chart)			

Pin No.	Pin Symbol	Description
14	O MOTOR	Motor ON/OFF output. With "L", the motor is stopped.
15	O MOTRH	Motor high-speed output. With "L", the motor rotates at high-speed.
16	O REC	REC output. Set to "L" only in the REC, PLAY REC PAUSE and PLAY PAUSE modes.
17	O RMT	REC MUTE output. Set to "L" in the REC and PLAY modes.
18	O PB	Set to "L" when the deck is in the PLAY mode.
19	O LMT	LINE MUTE output. Outputs "L" when either DECK I or DECK II is in the PLAY mode.
20	TEST	Connected to 0 [V].
21	Vss	
34	O DUB	Set to "L" during DUB.
35	O DUB. H	Set to "L" during High-Speed DUB.
36	SYNCPAS	Set to "H" during DUB. Set to "L" before PLAY is switched to CUE/REV when this pin is set to "H" or "L". PAUSE is commanded.
37	DUBENA	DUB start output and DUB stop input/output. Set to "H" during DUB.
38	ISPLYII	Input to detect the DECK II SOL PLAY output.
39	I RECII	Input to detect the DECK II OREC output.
40	CONTPLY	Continuous play output.
41	V _{DD}	Connected to +5 [V].
42	EXTAL	

Table 1

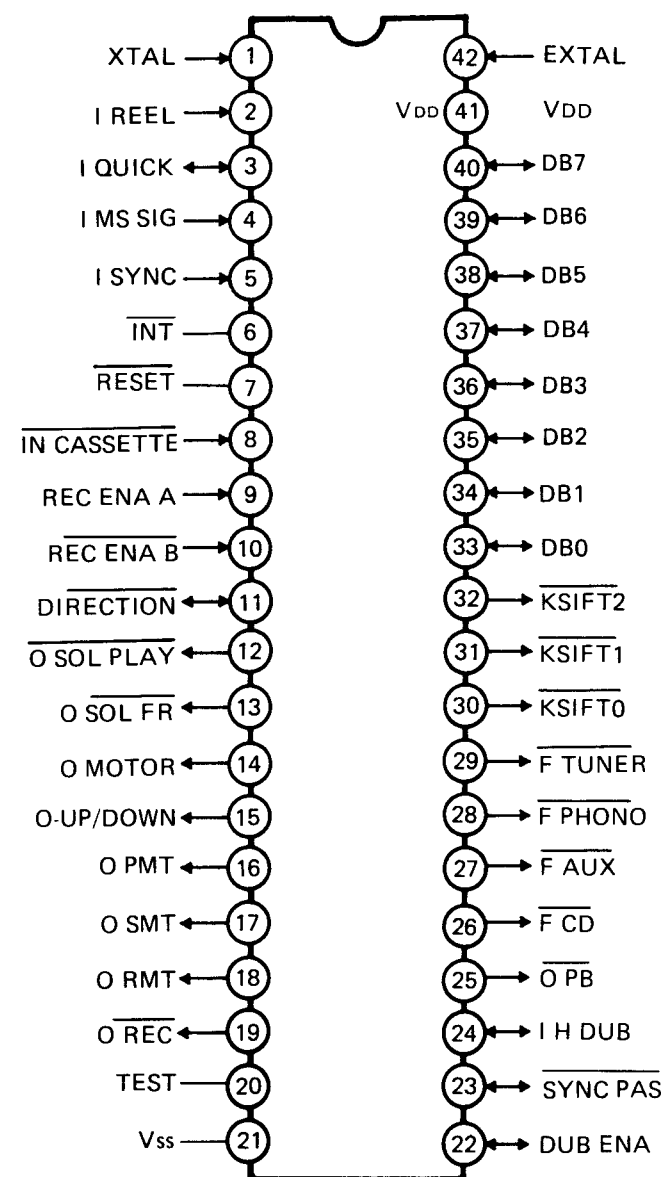
EXTAL
VDD
CONTPLY
IREC2
ISPLY2
DUBENA
SYNCPAS
ODUBH
ODUB
OPAUSE
KSIFT2
KSIFT1
KSIFT0
DSPLY0
DB0
DB1
DB2
DB3
DB4
DB5
DB6

the arrow.

Fig.-1

2. IC, LM6402-597

2-1. Terminal name DECK II

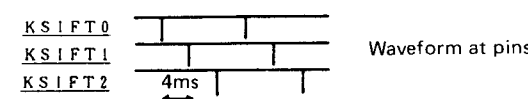


Signal flow in the direction indicated by the arrow.

Fig.2

2-2. Pin function

Pin No.	Pin Symbol	Description			
		Matrix Key Input			LED Indication Output (Lights with "L")
		KSIFT0 is "L"	KSIFT1 is "L"	KSIFT2 is "L"	KSIFT0,1,2 are "H"
33	DB0	REC key input	—	—	—
34	DB1	REC MUTE key input	—	—	—
35	DB2	PAUSE key input	—	—	—
36	DB3	STOP key input	RVS MODE SW input	—	REC indication
37	DB4	FF key input	RVS MODE SW input	—	REC MUTE indication
38	DB5	FWD PLAY key input	TIMER REC SW input	CONT. PLAY SW input	PAUSE indication
39	DB6	RVS PLAY key input	TIMER PLAY SW input	BLANK SKIP SW input	FWD PLAY indication
40	DB7	RWD key input	—	CONT. PLAY start input	RVS PLAY indication
30	KSIFT0	Matrix key input, and output to switch the indicator output.			
31	KSIFT1				
32	KSIFT2				
29	FTUNER	Set to "L" in REC, PLAY, REC PAUSE and PLAY PAUSE modes of each function.			
28	FPHONO				
27	FAUX				
26	FCD				
25	OPB	Set to "L" when the deck is in the PLAY mode.			
22	DUBENA	DUB start input and DUB stop output. Set to "H" during DUB.			
23	SYNC PAS	DUB PAUSE ON/OFF input. With "L", this becomes the syncrate output in PAUSE PHONO/CD REC mode.			
24	IHDUB	High-speed DUB input.			
2	IREEL	AUTO STOP detection input.			
3	IQUICK	Tape end sensor input.			
4	IMSSIG	MS inter-tune detection input. Set to "L" between turns.			
5	ISYNC	PHONO/CD Synchronized REC input. REC mode with "L" and REC PAUSE with "H".			
8	ICASSETTE	Cassette detection input. Set to "L" when a cassette is in.			
9	I REC ENA A	FWD SIDE erasure prevention input. With "L", REC is enabled.			
10	I REC ENA B	RVS SIDE erasure prevention input. With "L", REC is enabled.			



Pin No.	Pin Symbol	Description
11	I DIRECT.	Head direction detection input.
12	O SOL PLAY	PLAY plunger output. With "L" (Refer to the timing chart)
13	O SOL FR	FF/RWD plunger output. With "L" (Refer to the timing chart)
14	O MOTOR	Motor ON/OFF output. With "L"
15	O-UP/DOWN	Electronic counter UP/DOWN output. With "H", the counter counts up.
16	O PMT	PLAY MUTE output. Set to "L"
17	O SMT	REC MONITOR MUTE output. Set to "L" only in the REC, PAUSE, and PLAY PAUSE modes.
18	O RMT	REC MUTE output. Set to "L" only in the REC, PAUSE, and PLAY PAUSE modes.
19	O REC	REC output. Set to "L" only in the REC, PAUSE, and PLAY PAUSE modes.
1	XTAL	MPU clock input.
42	EXTAL	
7	RESET	MPU reset input. MPU is reset.
41	VDD	Connected to +5 [V].
6	INT	
20	TEST	Connected to 0 [V].
21	VSS	

2-2. Pin function

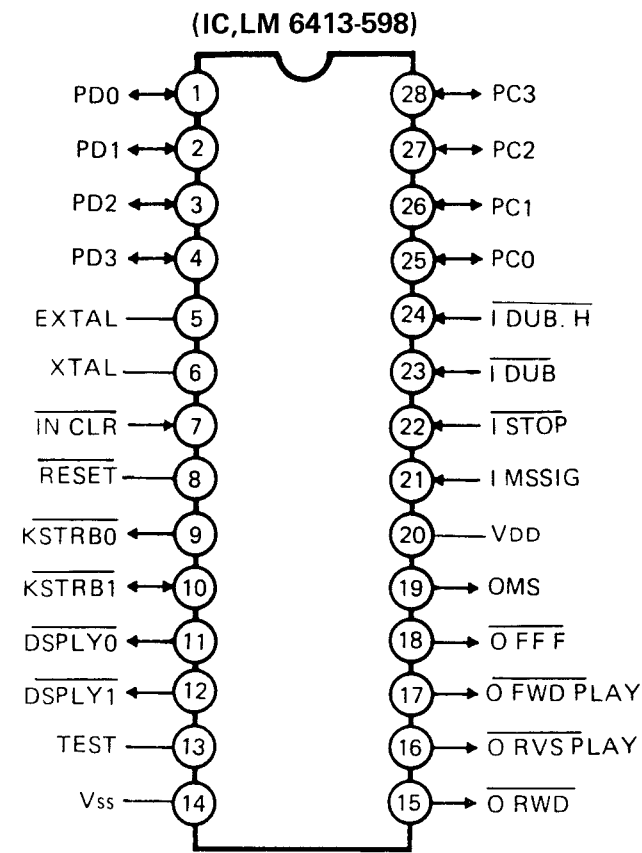
Pin No.	Pin Symbol	Description			
		Matrix Key Input			LED Indication Output (Lights with "L")
		KSIFT0 is "L"	KSIFT1 is "L"	KSIFT2 is "L"	KSIFT0,1,2 are "H"
33	DB0	REC key input	—	—	—
34	DB1	REC MUTE key input	—	—	—
35	DB2	PAUSE key input	—	—	—
36	DB3	STOP key input	RVS MODE SW input	—	REC indication
37	DB4	FF key input	RVS MODE SW input	—	REC MUTE indication
38	DB5	FWD PLAY key input	TIMER REC SW input	CONT. PLAY SW input	PAUSE indication
39	DB6	RVS PLAY key input	TIMER PLAY SW input	BLANK SKIP SW input	FWD PLAY indication
40	DB7	RWD key input	—	CONT. PLAY start input	RVS PLAY indication
30	KSIFT0	Matrix key input, and output to switch the indicator output. KSIFT0 KSIFT1 KSIFT2 4ms Waveform at pins			
31	KSIFT1				
32	KSIFT2				
29	FTUNER	Set to "L" in REC, PLAY, REC PAUSE and PLAY PAUSE modes of each function.			
28	FPHONO				
27	FAUX				
26	FCD				
25	OPB	Set to "L" when the deck is in the PLAY mode.			
22	DUBENA	DUB start input and DUB stop output. Set to "H" during DUB.			
23	SYNC PAS	DUB PAUSE ON/OFF input. With "L", this becomes the syncrate output in PAUSE PHONO/CD REC mode.			
24	IHDUB	High-speed DUB input.			
2	IREEL	AUTO STOP detection input.			
3	IQUICK	Tape end sensor input.			
4	IMSSIG	MS inter-tune detection input. Set to "L" between turns.			
5	ISYNC	PHONO/CD Synchronized REC input. REC mode with "L" and REC PAUSE with "H".			
8	ICASSETTE	Cassette detection input. Set to "L" when a cassette is in.			
9	I REC ENA A	FWD SIDE erasure prevention input. With "L", REC is enabled.			
10	I REC ENA B	RVS SIDE erasure prevention input. With "L", REC is enabled.			

Pin No.	Pin Symbol	Description
11	I DIRECT.	Head direction detection input/output. With "L", the head faces FWD SIDE.
12	O-SOL PLAY	PLAY plunger output. With "L", the plunger is attracted. (Refer to the timing chart)
13	O SOL FR	FF/RWD plunger output. With "L", the plunger is attracted. (Refer to the timing chart)
14	O MOTOR	Motor ON/OFF output. With "L", the motor is stopped.
15	O-UP/DOWN	Electronic counter UP/DOWN output. With "L", the counter counts down. With "H", the counter counts up.
16	O PMT	PLAY MUTE output. Set to "L" only in the PLAY mode.
17	O SMT	REC MONITOR MUTE output. Set to "L" only in the REC, PLAY, REC PAUSE and PLAY PAUSE modes.
18	O RMT	REC MUTE output. Set to "L" only in the REC and PLAY modes.
19	O REC	REC output. Set to "L" only in the REC, PLAY, REC PAUSE and PLAY PAUSE modes.
1	XTAL	MPU clock input.
42	EXTAL	
7	RESET	MPU reset input. MPU is reset with "L".
41	V _{DD}	Connected to +5 [V].
6	INT	
20	TEST	Connected to 0 [V].
21	V _{SS}	

Table 2

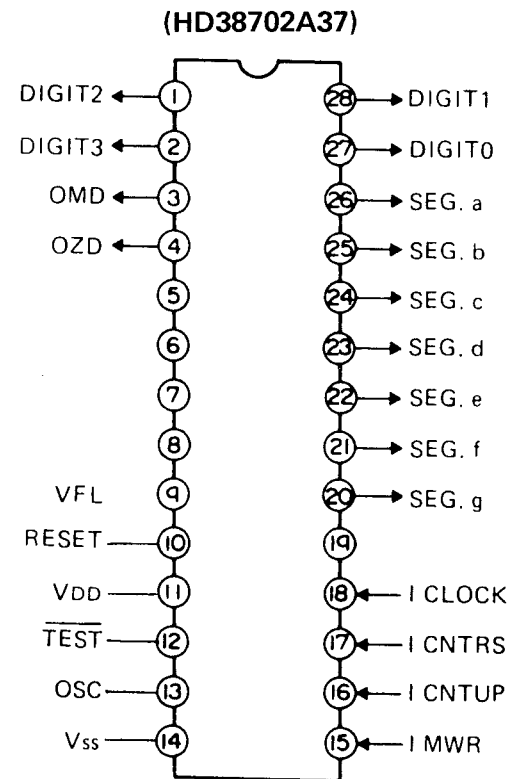
3. IC,LM6413-598,HD38702A37

3-1. Terminal name



Signal flow in the direction indicated by the arrow.

Fig.3



Signal flow in the direction indication by the arrow.

Fig.4

3-2. Pin function (LM6413-598)

Pin No.	Pin Symbol	Description			
		Matrix Key Input		LED Indication Output (Lights with "L")	
		KSTRB0 is "L"	KSTRB1 is "L"	DSPLY0 is "L"	DSPLY1 is "L"
25	PC0	K NO. 1 key input	K NO. 9 key input	K NO. 1 indication	K NO. 9 indication
26	PC1	K NO. 2 key input	—	K NO. 2 indication	—
27	PC2	K NO. 3 key input	A/B key input	K NO. 3 indication	Side A indication
28	PC3	K NO. 4 key input	PMS/MS key input	K NO. 4 indication	Side B indication
1	PD0	K NO. 5 key input	RWD key input	K NO. 5 indication	PMS indication
2	PD1	K NO. 6 key input	RVS PLAY key input	K NO. 6 indication	MS indication
3	PD2	K NO. 7 key input	FWD PLAY key input	K NO. 7 indication	—
4	PD3	K NO. 8 key input	FF key input	K NO. 8 indication	—
9	KSTRB0	Matrix key inputs and display outputs. KSTRB0 KSTRB1 DSPLY0 DSPLY1 Waveform at pins LED ON DUTY KSTRB2 20% KSTRB3 70%			
10	KSTRB1				
11	DSPLY0				
12	DSPLY1				
5	EXTAL	MPU clock input.			
6	XTAL				
7	I CLR	With "L", data is cleared.			
8	RESET	MPU reset input.			
13	TEST	Connected to 0 [V].			
14	Vss				
15	O RWD	RWD key operation output.			
16	O RVSPAY	RVS PLAY key operation output.			
17	O FWD PLAY	FWD PLAY key operation output.			
18	O FFF	FF key operation output.			
19	O MS	Input to detect no-signal sections between tunes with PMS/MS operations. With "H", a tune is detected. With "L", no-signal section is detected.			
20	VDD	Connected to +5 [V].			
21	IMSSIG	Input to detect no-signal sections between tunes with PMS/MS operations. With "H", a tune is detected. With "L", no-signal section is detected.			
22	I STOP	With "L", this IC detects that DECK 1 reel disks are stopped.			
23	I DUB	Set to "L" during DUB.			
24	I DUB. H	Set to "L" during High-Speed DUB.			

Table 3

3-3. Pin function (HD38702A37)

Pin No.	Pin Symbol	
18	I CLOCK	Count clock pulse input
4	O ZD	Detection output that
3	O HD	Detection output that
17	I CNTRS	Input to set the count
16	I CNTUP	Counter addition/subtraction, and with "1", the
15	I MWR	Input to write the count
27	DIGIT 0	Outputs the digit scan
28	DIGIT 1	
2	DIGIT 2	
3	DIGIT 3	
26	SEG. a	Segment output to light
25	SEG. b	
24	SEG. c	
23	SEG. d	
22	SEG. e	
21	SEG. f	
20	SEG. g	
9	V FL	Power supply for the f
10	RESET	Reset pin
11	VDD	VDD pin
12	TEST	
13	OSC	Osc pin
14	Vss	Vss pin

3-2. Pin function (LM6413-598)

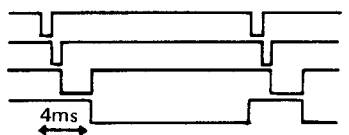
Pin No.	Pin Symbol	Description			
		Matrix Key Input		LED Indication Output (Lights with "L")	
		KSTRB0 is "L"	KSTRB1 is "L"	DSPLY0 is "L"	DSPLY1 is "L"
25	PC0	K NO. 1 key input	K NO. 9 key input	K NO. 1 indication	K NO. 9 indication
26	PC1	K NO. 2 key input	—	K NO. 2 indication	—
27	PC2	K NO. 3 key input	A/B key input	K NO. 3 indication	Side A indication
28	PC3	K NO. 4 key input	PMS/MS key input	K NO. 4 indication	Side B indication
1	PD0	K NO. 5 key input	RWD key input	K NO. 5 indication	PMS indication
2	PD1	K NO. 6 key input	RVS PLAY key input	K NO. 6 indication	MS indication
3	PD2	K NO. 7 key input	FWD PLAY key input	K NO. 7 indication	—
4	PD3	K NO. 8 key input	FF key input	K NO. 8 indication	—
9	$\overline{\text{KSTRB0}}$	Matrix key inputs and display outputs. $\overline{\text{KSTRB0}}$ $\overline{\text{KSTRB1}}$ $\overline{\text{DSPLY0}}$ $\overline{\text{DSPLY1}}$  Waveform at pins LED ON DUTY KSTRB2 20% KSTRB3 70%			
10	$\overline{\text{KSTRB1}}$				
11	$\overline{\text{DSPLY0}}$				
12	$\overline{\text{DSPLY1}}$				
5	EXTAL	MPU clock input.			
6	XTAL				
7	$\overline{\text{ICLR}}$	With "L", data is cleared.			
8	$\overline{\text{RESET}}$	MPU reset input.			
13	TEST	Connected to 0 [V].			
14	Vss				
15	$\overline{\text{ORWD}}$	RWD key operation output.			
16	$\overline{\text{ORVS PLAY}}$	RVS PLAY key operation output.			
17	$\overline{\text{OFWD PLAY}}$	FWD PLAY key operation output.			
18	$\overline{\text{OFF}}$	FF key operation output.			
19	OMS	Input to detect no-signal sections between tunes with PMS/MS operations. With "H", a tune is detected. With "L", no-signal section is detected.			
20	V _{DD}	Connected to +5 [V].			
21	IMSSIG	Input to detect no-signal sections between tunes with PMS/MS operations. With "H", a tune is detected. With "L", no-signal section is detected.			
22	$\overline{\text{ISTOP}}$	With "L", this IC detects that DECK 1 reel disks are stopped.			
23	$\overline{\text{IDUB}}$	Set to "L" during DUB.			
24	$\overline{\text{IDUB.H}}$	Set to "L" during High-Speed DUB.			

Table 3

3-3. Pin function (HD38702A37)

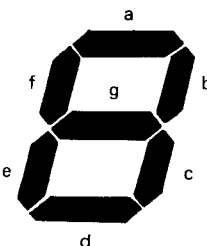
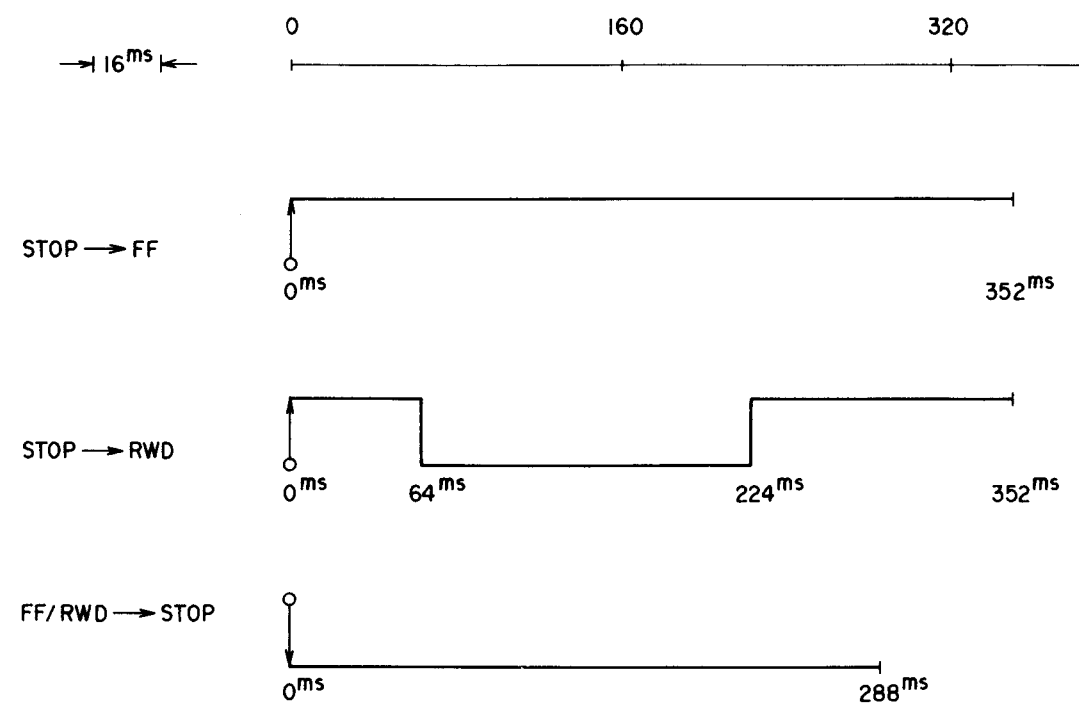
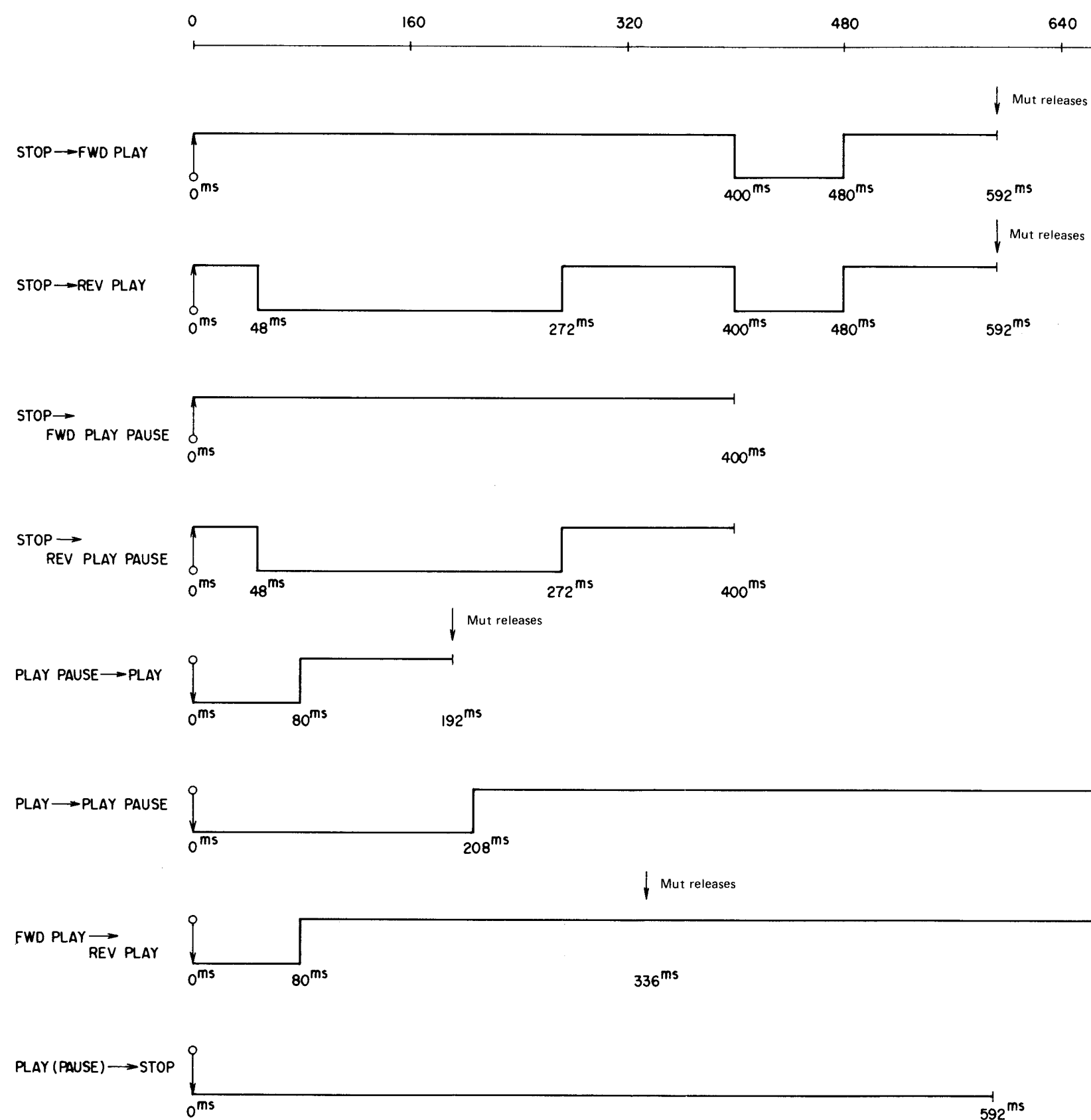
Pin No.	Pin Symbol	Description
18	ICLOCK	Count clock pulse input for the counter.
4	OZD	Detection output that the counter reaches "0000".
3	OH	Detection output that the counter value matches the memory value.
17	ICNTRS	Input to set the counter to "0000".
16	ICNTUP	Counter addition/subtraction designation input. With "0", the counter counts down, and with "1", the counter counts up.
15	IMWR	Input to write the counter data into the memory.
27	DIGIT0	Outputs the digit scan signal to light the fluorescent display dynamically.
28	DIGIT1	
2	DIGIT2	
3	DIGIT3	
26	SEG. a	Segment output to light the fluorescent display dynamically. 
25	SEG. b	
24	SEG. c	
23	SEG. d	
22	SEG. e	
21	SEG. f	
20	SEG. g	
9	VFL	Power supply for the fluorescent display.
10	RESET	Reset pin
11	V _{DD}	V _{DD} pin
12	$\overline{\text{TEST}}$	
13	OSC	Osc pin
14	Vss	Vss pin

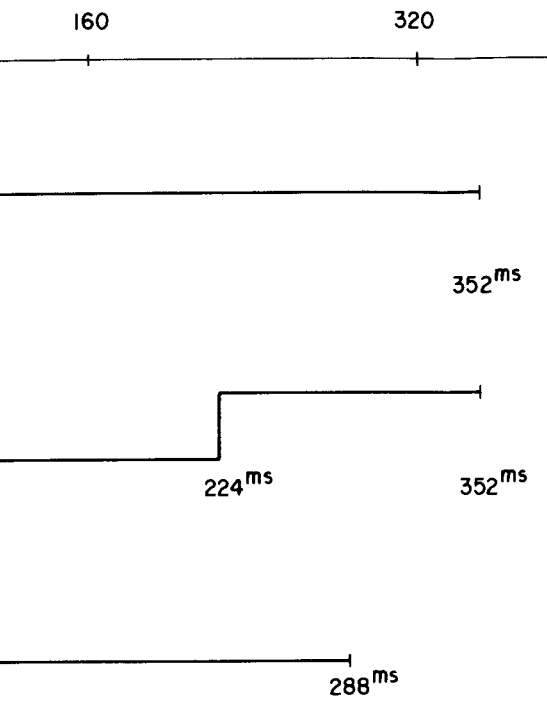
Table 4

TIMING CHART (AD-WX200, WX20)

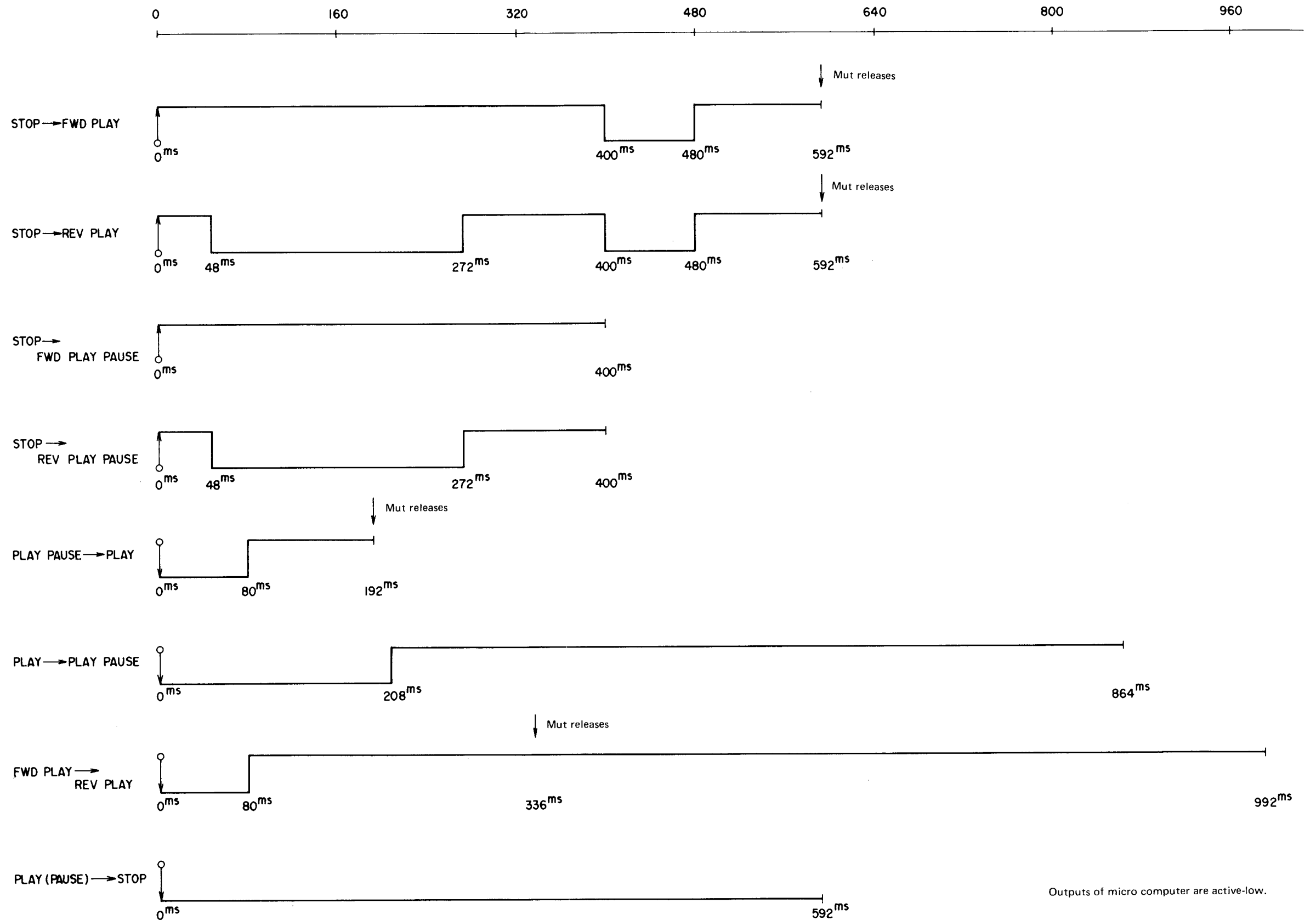


Outputs of micro computer are active-low.





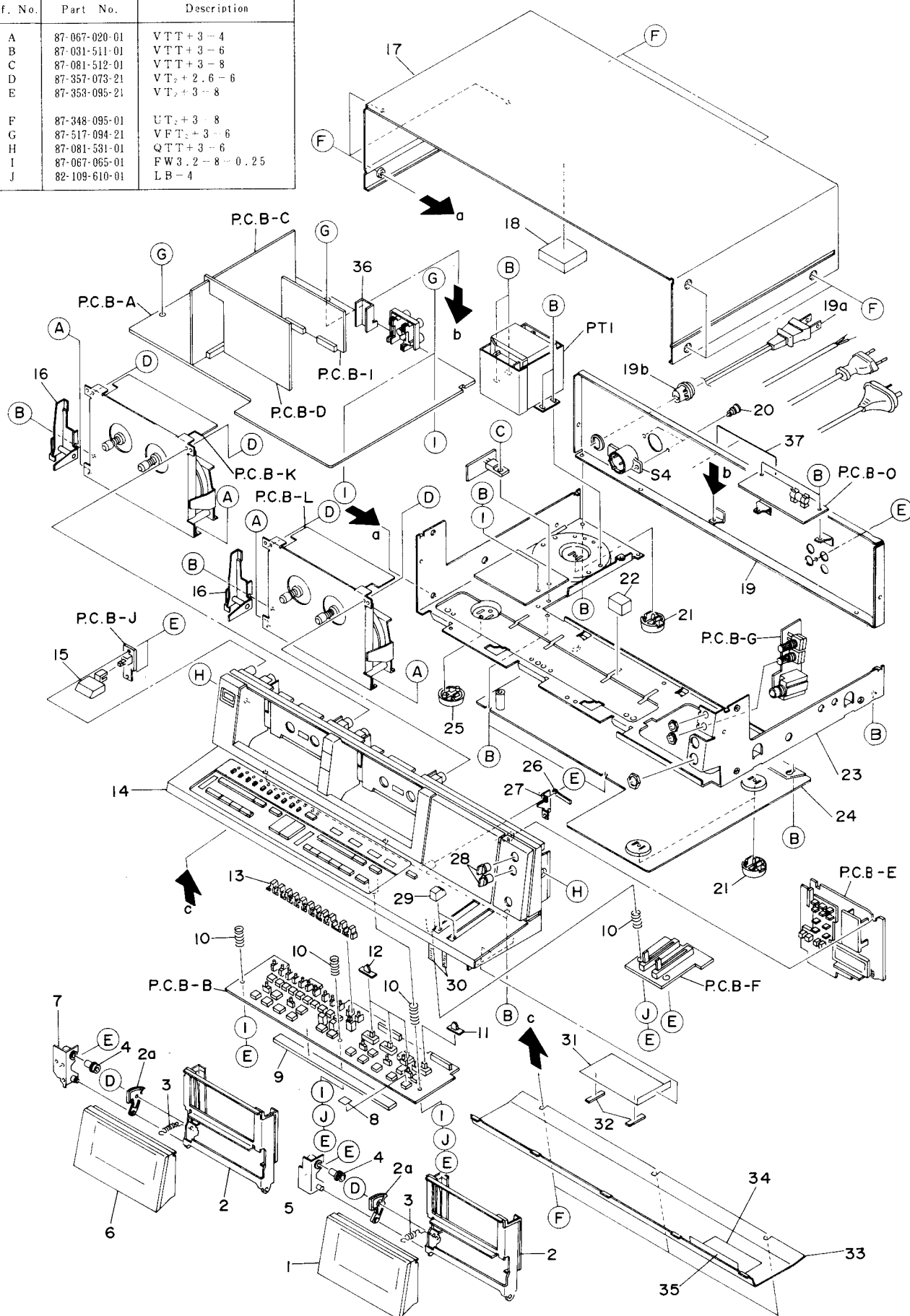
Outputs of micro computer are active-low.



Outputs of micro computer are active-low.

EXPLODED VIEW-1

Ref. No.	Part No.	Description
A	87-067-020-01	VTT+3-4
B	87-031-511-01	VTT+3-6
C	87-081-512-01	VTT+3-8
D	87-357-073-21	VT ₂ +2.6-6
E	87-353-095-21	VT ₂ +3-8
F	87-348-095-01	UT ₂ +3-8
G	87-517-094-21	VFT ₂ +3-6
H	87-081-531-01	QTT+3-6
I	87-067-065-01	FW3.2-8-0.25
J	82-109-610-01	LB-4



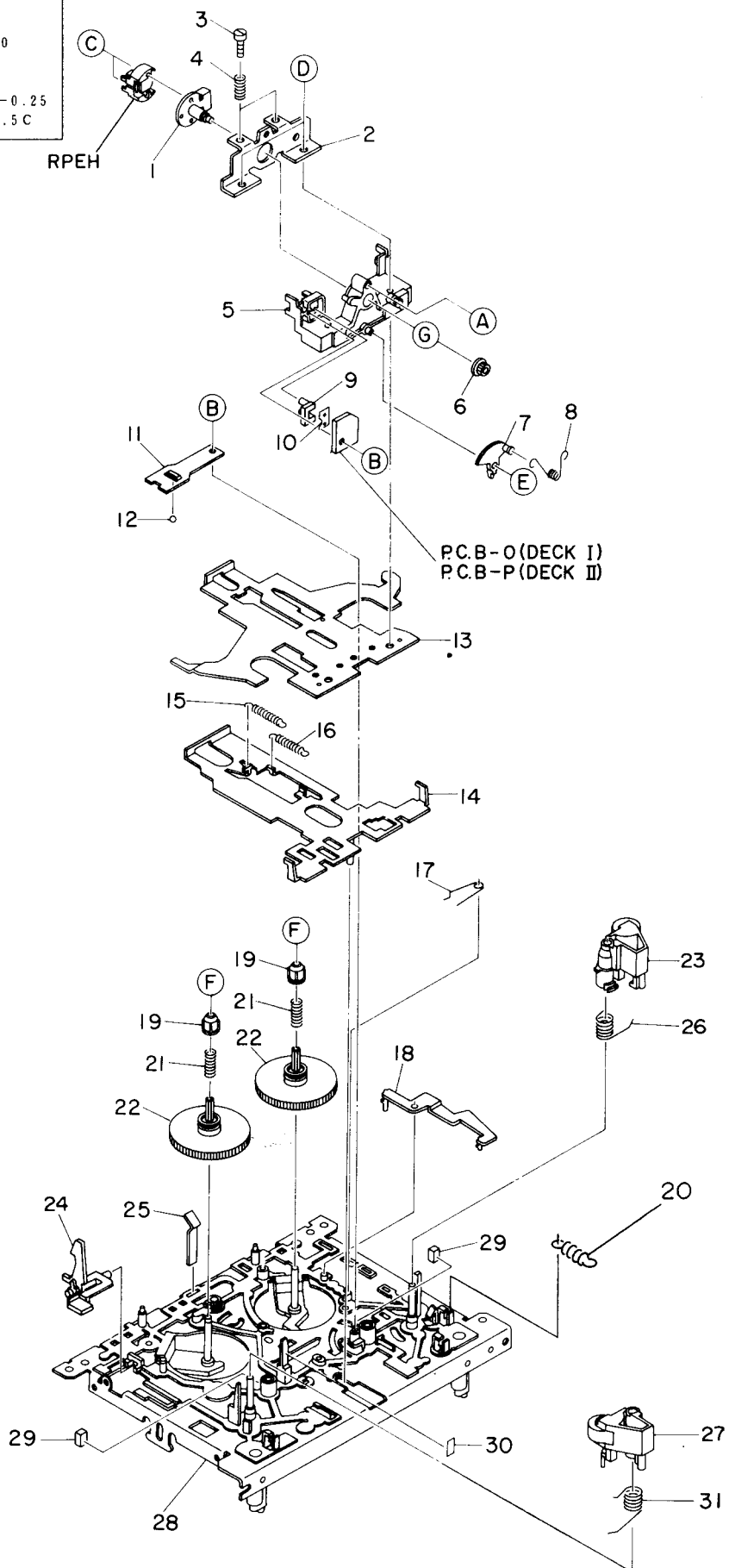
MECHANICAL PARTS LIST

- * mark in this part list shows exclusive part.
- * mark means less required items availabilities may be limited.
- No availability part is marked with — in Part No. list.

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	1-1	82-109-017	CASSETTE WINDOW B Ass'y	*	1
	1-2	★82-196-248	CASSETTE BOX Ass'y F	AD-WX220	2
	2a	★82-161-325	GEAR, OIL-DAMP		2
	1-3	★82-196-225	E-SPRING, C-BOX	AD-WX220	2
	1-4	★82-534-264	GEAR, OIL-DAMP		2
	1-5	★82-196-205	HOLDER C-BOX A Ass'y	AD-WX220	1
	1-6	82-109-016	CASSETTE WINDOW A Ass'y	*	1
	1-7	★82-196-210	HOLDER C-BOX B Ass'y	AD-WX220	1
	1-8	—	SHEET, CIRCUIT BOARD		1
	1-9	—	CUSHION 6-150-5		1
	1-10	★82-146-214	C-SPRING, FRONT EARTH		4
	1-11	★82-104-018	SLIDE KNOB R		1
	1-12	★82-142-015	SLIDE KNOB		3
	1-13	—	GUIDE, LED B		1
	1-14	★82-109-001	FRONT CABINET Ass'y (EXCEPT U)	*	1
		★82-109-027	FRONT CABINET Ass'y (U only)	*	1
	1-15	★84-700-003	PUSH-BUTTON, POWER		1
	1-16	★82-109-203	LEVER EJECT Ass'y	*	2
	1-17	★82-109-037	STEEL CABINET (EXCEPT U)	*	1
		★82-109-040	STEEL CABINET (U only)	*	1
	1-18	—	S CUSHION 25-25-6		1
	1-19	—	REAR PANEL Ass'y		1
	19a	★87-034-958	AC POWER CORD (H only)		1
		★87-034-578	AC POWER CORD (W20U, C only)		1
		★87-034-877	AC POWER CORD (E, Z only)		1
		★87-034-975	AC POWER CORD (K only)		1
		★87-034-892	AC POWER CORD (G only)		1
	19b	★87-085-184	CORD BUSHING (H, W20U, C only)		1
		★87-085-185	CORD BUSHING (E, K, G, Z only)		1
	1-20	★87-085-090	NYLON RIVET		2
	1-21	★87-055-055	FOOT		3
	1-22	—	CUSHION 12-15-12.5		1
	1-23	—	AMP. CHASSIS		1
	1-24	—	BOTTOM CABINET Ass'y		1
	1-25	★87-055-057	FOOT B		1
	1-26	—	WIRE BINDER		1
	1-27	★82-196-212	HOLDER C-BOX C Ass'y	AD-WX220	1
	1-28	82-155-008	KNOB, PLAY		2
	1-29	82-196-026	KNOB, SLIDE VR	AD-WX220	2
	1-30	★82-109-038	SHEET, SLIDE VR	*	2
	1-31	★82-109-213	SHEET B	*	1
	1-32	—	FIBER 6-25		2
	1-33	★82-196-015	BOTTOM CABINET A	AD-WX220	1
	1-34	—	SHEET A		1
	1-35	—	SHEET FILM		1
	1-36	—	PLATE, RADIATE HEAT		1
	1-37	—	SPEC. PLATE (U only)		1

EXPLODED VIEW-2

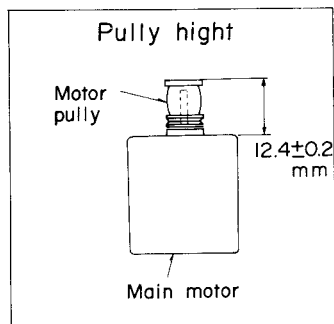
Ref. No.	Part No.	Description
A	87-251-036-21	U + 2 - 8
B	87-351-033-21	VT, + 2 - 4
C	87-067-177-01	V + 1.6 - 5.5
D	87-081-504-01	VTT + 2.6 - 10
E	87-067-217-01	VFT, + 2 - 6
F	87-081-808-01	PW 1.7 - 3.5 - 0.25
G	87-067-105-01	PW 3.4 - 8 - 0.5 C



Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	2-1	86-513-267	HEAD HOUSING Ass'y		1	
	2-2	★86-517-268	HOLDER, AZIMUTH SCREW		1	
	2-3	86-517-296	AZIMUTH SCREW		2	
	2-4	★86-517-291	C-SPRING, AZIMUTH		2	
	2-5	★86-517-269	HEAD BASE Ass'y		1	
	2-6	86-513-299	GEAR, HEAD HOUSING		1	
	2-7	86-517-273	GEAR, HEAD ROLLING A		1	
	2-8	★86-517-282	T-SPRING, ROLLING		1	
	2-9	★86-517-297	SENSOR LENS		1	
	2-10	—	SHEET, SENSOR LENS		1	
	2-11	★86-517-275	P-SPRING, ACTUATING CHASSIS		1	
	2-12	★87-073-008	STEEL BALL 2.5		1	
	2-13	★86-517-305	ACTUATING CHASSIS R		1	
	2-14	★86-517-308	LEVER MOVEMENT REVERSE Ass'y		1	
	2-15	★86-517-312	E-SPRING, LEVER MOVEMENT		1	
	2-16	★86-517-370	E-SPRING, ACTUATING CHASSIS R		1	
	2-17	★86-517-310	T-SPRING, QUICK LEVER		1	
	2-18	★86-517-258	LEVER, DIRECTION		1	
	2-19	86-517-236	STOPPER, REEL PLATFORM		2	
	2-20	★86-513-340	E-SPRING, AUTO BLOCKING		1	
	2-21	★86-517-333	C-SPRING, REEL PLATFORM A		2	
	2-22	86-517-235	REEL PLATFORM		2	
	2-23	86-517-248	PINCH LEVER F Ass'y		1	
	2-24	★86-517-256	LEVER, EJECT		1	
	2-25	★86-517-276	P-SPRING, CASSETTE		1	
	2-26	★86-517-277	T-SPRING, PINCH LEVER F		1	
	2-27	86-517-250	PINCH LEVER R Ass'y		1	
	2-28	—	OUTSERT R Ass'y		1	
	2-29	—	CUSHION, ACTUATING CHASSIS		2	
	2-30	—	SHEET, QUICK		1	
	2-31	★86-517-289	T-SPRING, PINCH LEVER R		1	

EXPLODED VIEW-3

Ref. No.	Part No.	Description
A	87-251-072-21	U+2.6-5
B	87-081-501-01	VTT+2.6-4
C	87-081-489-01	PW1.7-3.5-0.25
D	87-081-464-01	PW1.8-5-0.5
E	87-067-226-01	PW2.5-4.7-0.25
F	81-505-341-01	VFT ₂ +2.6-31.5
G	87-441-003-01	STE-1.5



P.C.B-M(DECK I)
P.C.B-N(DECK II)

SOL1102(DECK I)
SOL1104(DECK II)

S1102(DECK I)
S1108(DECK II)

S1103(DECK I)
S1109(DECK II)

S1106(DECK I)
S1112(DECK II)

S1101(DECK I)
S1107(DECK II)

S1105(DECK I)
S1111(DECK II)

S1104(DECK I)
S1101(DECK II)

SOL1101(DECK I)
SOL1103(DECK II)

7

6

4

5

3

2

M101, M102

21

22

19

20

17

18

16

15

14

13

8

10

11

9

28

29

26

27

25

24

12

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	3-1	★86-517-278	T-SPRING, FR CAM		1	
	3-2	86-517-215	GEAR, FR CAM C		1	
	3-3	★86-517-346	E-SPRING, TRIGGER LEVER FR		1	
	3-4	★86-517-257	TRIGGER LEVER FR		1	
	3-5	86-517-238	GEAR, FF		1	
	3-6	★86-517-254	LEVER, SLIDE BRAKE		1	
	3-7	★86-517-284	E-SPRING, SLIDE BRAKE		1	
	3-8	86-517-239	FR PULLEY A Ass'y		1	
	3-9	★86-517-263	SLIDE PLATE R Ass'y		1	
	3-10	86-517-225	GEAR PLAY R Ass'y		1	
	3-11	86-517-336	GEAR MAIN CAM R Ass'y		1	
	3-12	★86-517-306	LEVER QUICK Ass'y		1	
	3-13	86-517-354	MAIN BELT R-2-A		1	
	3-14	86-517-302	BELT FR-2		1	
	3-15	★86-517-323	C-SPRING, FLYWHEEL DC F		2	
	3-16	86-517-317	GEAR, FLYWHEEL DC F		2	
	3-17	86-517-314	FLYWHEEL DC F Ass'y		1	
	3-18	86-517-318	FLYWHEEL DC R Ass'y		1	
	3-19	★86-513-441	COLLAR		2	
	3-20	★86-517-348	FLYWHEEL BEARING		2	
	3-21	—	MOTOR HOLDER DC		1	
	3-22	86-517-360	MOTOR PULLEY R-2		1	
	3-23	★86-517-345	COLLAR, SLIDE PLATE R		1	
	3-24	★86-517-252	TRIGGER LEVER PLAY-A		1	
	3-25	★86-517-280	T-SPRING, TRIGGER LEVER PLAY		1	
	3-26	★86-517-332	T-SPRING, LEVER SWITCH		1	
	3-27	★86-517-281	T-SPRING, SLIDE LEVER R		1	
	3-28	★86-517-253	TRIGGER LEVER PLAY-B		1	
	3-29	★86-517-255	SWITCH LEVER		1	

■ ACCESSORIES/PACKAGE LIST

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	1	★82-109-905	INSTRUCTION BOOKLET	※	1	
	2	★87-032-845	SIEMENS PLUG (HB only)		1	
	3	★87-034-978	CONNECTION CORD, CW-254BSK		2	

AIWA Co., Ltd. Tokyo Japan